

AD-A128 542

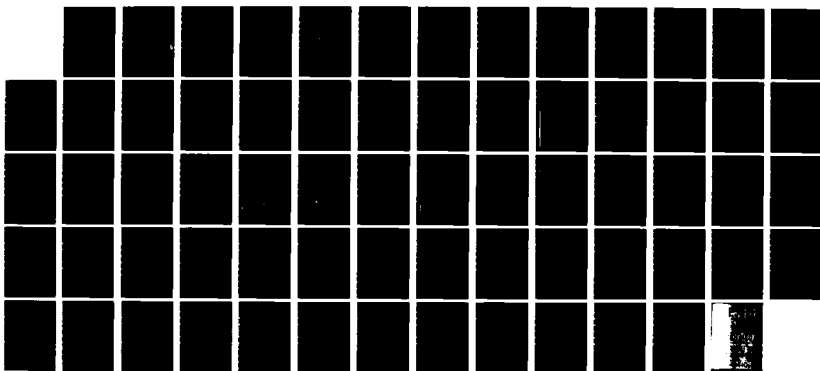
DETAILED OBSERVATIONS OF THE KUROSHIO AND ITS EDDIES -
OCTOBER 1976(U) NAVAL OCEANOGRAPHIC OFFICE NSTL STATION
MS B P BLUMENTHAL ET AL. JAN 78 N00-TN-3788-76-78

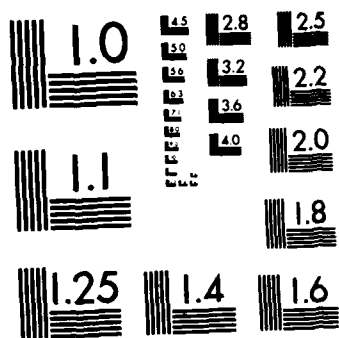
1/1

UNCLASSIFIED

F/G 8/3

NL

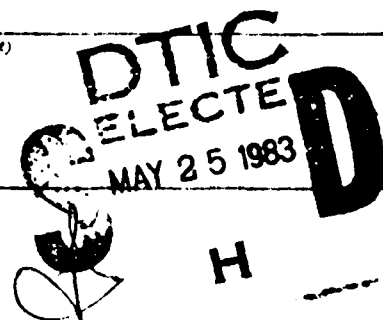




MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD A 128542

REPORT DOCUMENTATION PAGE		INSTRUCTIONS BEFORE COMPLETING FORM	
1. REPORT NUMBER DA 3700-76-78	2. GOVT ACCESSION NO AD A128542	3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle) Detailed Observations of the Kuroshio and Its Eddies -- October 1976		5. TYPE OF REPORT & PERIOD COVERED Technical Note October 1976	
7. AUTHOR(s) Barry P. Blumenthal Robert E. Cheney		8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Naval Oceanographic Office NSTL Station Bay St. Louis, MS 39522		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS	
11. CONTROLLING OFFICE NAME AND ADDRESS		12. REPORT DATE January 1976	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		13. NUMBER OF PAGES 63	
		15. SECURITY CLASS (of this report)	
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited			
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)			
18. SUPPLEMENTARY NOTES Copy available to DTIC does not permit fully legible reproduction			
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Kuroshio Eddies Cyclonic Anticyclonic Japan Gulf Stream			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Two Kuroshio eddies--one cyclonic and anticyclonic--were surveyed east of Japan during Oct 76. A segment of the Kuroshio between the two eddies was studied. Data consist of 212 XBTs and 29 deep STD stations. These observations represent some of the most thorough measurements of Kuroshio eddies presently available and the first detailed description of a cyclonic eddy. The cyclonic Kuroshio eddy had overall diameter of 250 km and was estimated to be 4 months old. Temperature at center was 7°C colder than outside at a depth of 400m. The anticyclonic eddy was 120 km in diameter and was 7°C			



warmer than surrounding water at 400 m. It was at least two months old and was beginning to coalesce with the Kuroshio. Comparison of these two eddies with several Gulf Stream eddies shows them to be similar features in many respects.

Approved for public release
distribution unlimited

DETAILED OBSERVATIONS OF THE
KUROSHIO AND ITS EDDIES - OCTOBER 1976

by

Barry P. Blumenthal
Robert E. Cheney

NAVOCEANO Technical Note 3700-76-78

U.S. NAVAL OCEANOGRAPHIC OFFICE
WASHINGTON, D.C. 20373

January 1978

Copy available to DTIC does not
permit fully legible reproduction

DISCLAIMER NOTICE

**THIS DOCUMENT IS BEST QUALITY
PRACTICABLE. THE COPY FURNISHED
TO DTIC CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

ABSTRACT

Two Kuroshio eddies -- one cyclonic and one anticyclonic -- were located east of Japan during October 1976 and were the subject of a detailed ship survey. A segment of the Kuroshio between the two eddies was also studied. The data consist of 212 XBT's and 29 deep STD stations. These observations represent some of the most thorough measurements of Kuroshio eddies presently available and the first detailed description of a cyclonic eddy.

The cyclonic Kuroshio eddy had an overall diameter of 250 km and was estimated to be 4 months old. Temperature at the eddy center was 7°C colder than outside at a depth of 400 m. The anticyclonic eddy was 120 km in diameter and was 7°C warmer than surrounding water at 400 m. It was at least 8 months old and was beginning to coalesce with the Kuroshio. Comparison of these two eddies with several Gulf Stream eddies shows them to be similar features in many respects.



Accession For	
NTIS GRL&I	<input checked="" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special
A	23 CP

I. INTRODUCTION

As part of its study of oceanic fronts, the Naval Oceanographic Office conducted a joint ship/aircraft survey of the Kuroshio and Oyashio frontal system east of Japan during October 1976. The Kuroshio and Oyashio fronts were tracked from the coast eastward to about 155°E. Analysis of the aircraft data, reported by Cheney (1977), revealed a complicated frontal zone with numerous eddies present. This report deals with the data collected aboard USNS SILAS BENT (T-AGS 26) in selected features of the region during 18-31 October.

II. DATA

During the initial aircraft survey (9-22 October 1976), positions of a cyclonic Kuroshio eddy, the Kuroshio, and an anticyclonic Kuroshio eddy were relayed to SILAS BENT. Two-hundred twelve SXBTs (shipboard expendable bathythermographs) and 29 STD (salinity-temperature-depth) profiles were subsequently obtained during a detailed survey of each of these three features.

Raw data from a Plessey model 9040 STD sensor were sampled every 0.5 s and recorded on magnetic tape. Data were then averaged and values obtained at 1 m intervals. Corrections were applied by comparing values from Niskin bottle samples and reversing thermometers to those obtained by the instrument. The accuracy of the STD system was within 0.02°C in temperature and about 0.01‰ in salinity. The depth accuracy was within 2 m. Navigation was by satellite and positions were accurate to within 0.2 km.

III. DISCUSSION

For each of the three features investigated by the BENT, four vertical sections (vertical exaggeration 200:1) are presented: 1) temperature; 2) salinity; 3) sound speed and 4) geostrophic current velocity. Sound speed

is derived from Wilson's (1960) equation, and geostrophic velocity is referenced to the maximum depth of the STD cast in each feature. Selected STD data used in geostrophic current calculations and other derived parameters are listed in the Appendices.

A. Kuroshio Cyclonic Eddy

A Kuroshio cyclonic (cold) eddy, centered at 33°N, 143°E, was surveyed from SILAS BENT during 18-24 October, 1976. These observations are particularly significant in that few cold eddy studies have ever been made and the little information that does exist (Masuzawa, 1957) is not recent. Temperature at 400 m in the cold eddy is shown in figure 1, along with SXBT and STD location. The overall diameter of the eddy is approximately 250 km*. Temperature at 400 m is 7°C colder at the eddy center than outside and the net horizontal gradient is $0.06^{\circ}\text{C km}^{-1}$.

Figure 2 is a zonal temperature section through the eddy along 33°N (center at station 6). The main thermocline at the center of the eddy is 300 m shallower than in the subtropical water surrounding it. A remarkable feature that is readily apparent is the fact that the cold core extends to 3000 m, although at this depth temperatures in the eddy are only 0.05°C colder than outside.

The age of this eddy may be estimated by assuming a decay rate similar to those measured for Gulf Stream eddies. Assuming reasonable initial conditions for the depth of the thermocline at the eddy core (15°C at 75 m) and a linear sinking rate of 0.5 m day^{-1} (Parker, 1971; Cheney and Richardson, 1976) the estimated age of this eddy is four months.

*The intersection of the 15°C isotherm with a depth of 500 m has been used as a standard to define the diameters of Gulf Stream cyclonic eddies. An equivalent definition for Kuroshio cyclonic eddies is 9°C at 500 m depth; this yields a diameter of 170 km for the Kuroshio eddy discussed here.

Figure 3 shows the existence of an intermediate salinity minimum, representative of North Pacific Intermediate Water (NPIW). The axis of the minimum is shallower at the eddy center (500 m compared 750 m outside) and creates an interesting situation: above the minimum the eddy represents a negative salinity anomaly along horizontal surfaces while the opposite is true at depths greater than the minimum.

Sound speeds in the eddy (figure 4) are low within the core and high in the surrounding water at the same depth, with a net difference of 25 m s^{-1} . Axial depth of the deep sound channel (DSC) shows an abrupt change from 900 m in the subtropical water to 500 m in the eddy core. Although sonic layer depth (SLD) shows no appreciable change across the eddy in this case, the uplifted thermocline at the eddy center represents a barrier to vertical motions and creates the potential for large SLD differences to occur. Periods of intense vertical mixing, such as during winter storms, would establish deep mixed layers outside the cold eddy while layers would remain shallow near the center.

A geostrophic velocity section for the cold eddy is shown in figure 5. The shaded portion represents southward flow (towards the reader). In order to account for centripetal accelerations, a correction was applied according to the gradient wind relationship (gradient currents are less than geostrophic currents in a cyclonic eddy). Maximum surface current velocity in the eddy is 80 cm s^{-1} (1.5 kt) and the tangential volume transport is $50 \times 10^6 \text{ m}^3 \text{ s}^{-1}$.

Both the available potential energy (APE) and kinetic energy (KE) were determined for this eddy. The APE is the energy which would become available if the density stratification became everywhere barotropic, and the KE is the energy of the eddy's mean tangential motion. The potential energy anomaly, χ , is defined as:

$$\chi = \frac{1}{g} \int_0^P P \delta dP \quad (\text{erg cm}^{-2}) \quad (\text{Fofonoff, 1962})$$

where g = acceleration of gravity (cm s^{-2})

P = pressure (db)

δ = specific volume anomaly ($\text{cm}^3 \text{g}^{-1}$)

This quantity was computed for each STD profile. Difference between the potential energy anomaly at any point inside the eddy and the reference value (station 10) is the APE per unit area, and the total APE of the eddy was obtained by summing these differences over the area of the eddy.

Total KE was determined from computed gradient current velocities by a summation over the eddy's area, where KE per unit area is defined as:

$$\text{KE} = 1/2 \int_0^P \rho v^2 dP \quad (\text{erg cm}^{-2})$$

ρ = density (g cm^{-3})

v = current velocity (cm s^{-1})

Since most eddies are not circular, but slightly elliptical, both the APE and KE summations were performed by considering the eddy boundary to be composed of two semicircles of different radii and integrating over the area in each half of the eddy.

Total APE and KE of the cold Kuroshio eddy are 1.3×10^{24} ergs and 3.3×10^{22} ergs, respectively. This yields a ratio of $\text{APE/KE} = 40$. Wright (1972) has estimated the APE/KE ratio of the ocean to be between 10 and 50. Studies of four different cyclonic Gulf Stream eddies have shown this ratio to range from 15 to 46 (Khedouri and Gemmill, 1974; Cheney and Khedouri, 1975; Cheney and Richardson, 1976). The fact that a Kuroshio cyclonic eddy has an APE/KE ratio similar to that of Gulf Stream eddies is not surprising since both are formed by western boundary currents with similar scales,

transports, and speeds.

Cheney and Richardson (1976) followed a cyclonic Gulf Stream eddy for 14 months and determined that its APE decay rate was approximately 10^{21} ergs per day. If we apply this decay rate to the Kuroshio eddy we arrive at a total predicted lifetime of 3.9 years. It is possible that energy is lost more rapidly during the later stages of decay and therefore this estimate may be high. However, Gulf Stream eddies have been observed to last as long as two years.

Figure 6 is a composite T-S diagram for the ten STD stations in the Kuroshio cold eddy. Three stations near the center of the eddy (5, 6, and 7) provide evidence of the less saline core of the confluence zone water thus confirming that the eddy was formed from a Kuroshio meander. The other stations maintain a tight T-S relationship except in the region of the salinity minimum. The central STD stations (5 and 6) display the most pronounced salinity minima.

B. Kuroshio

An STD section was obtained across the Kuroshio at 147°00'E (figure 7). The cross-current temperature difference at 400 m is 10°C and the horizontal gradient is $0.1^{\circ}\text{C km}^{-1}$. The temperature section in figure 8 shows the front extending to 2500 m with a horizontal temperature difference of 0.1°C at this depth. The center of the main thermocline (10°C) slopes down from 150 m at the northern portion of the section to 600 m south of the Kuroshio with a maximum slope of 7.5 m km^{-1} . The nearly isothermal layer (16° - 18°C) between the upper and main thermoclines is Subtropical Mode Water (Masuzawa, 1969). The T-S characteristics of this water ($T=17^{\circ}\text{C}$, $S=34.8^{\circ}/\text{oo}$) make it a counterpart of the 18° Water in the Sargasso Sea (Worthington, 1959).

The salinity section (figure 9) shows the salinity minimum layer which corresponds to NPIW. Comparison with the temperature section in figure 8 reveals that the axis of the minimum follows the bottom of the main thermocline (5°C). The core of the NPIW occurs at a depth of 300 m in the region between the Oyashio Front and the Kuroshio, with a minimum salinity of approximately 33.6‰ . South of the Kuroshio, the salinity minimum layer reaches a maximum depth of 800 m with a salinity value of 33.7‰ .

The sound speed section through the Kuroshio (figure 10) shows the depth of the DSC axis and the SLD. SLD changes from 50 to 90 m as the front is crossed from north to south. DSC exhibits a more dramatic change from 400 m north of the Kuroshio to 1230 m in the subtropical water of the Central Region.

Geostrophic velocity calculations for the Kuroshio were performed assuming a "level of no motion" at 2500 db. Shaded portions in figure 11 represent westward flow. The maximum surface current speed is about 185 cm s^{-1} (3.6 kt) which is equal to the average value measured by geomagnetic electrokinetograph (GEK) at 145°E (Kawai, 1969). A countercurrent is seen approximately 150 km to the south (right) of the Kuroshio axis having a maximum value of 11 cm s^{-1} (0.2 kt). A very weak deep return flow between stations 13 and 14 is also evident. The net volume transport through this section is $64 \times 10^6\text{ m}^3\text{ s}^{-1}$ towards the east, but only about $57 \times 10^6\text{ m}^3\text{ s}^{-1}$ is due to the main body of the Kuroshio (between stations 16 and 12).

T-S diagrams for the ten STD stations taken in the Kuroshio are shown in figure 12. Station 17 was taken at the northern edge of the Kuroshio while the southern edge is represented by station 12. The salinity minimum

occurs at 310 m and 780 m for stations 17 and 12, respectively. In the upper portion of the diagram, the five southern stations (higher temperatures) are distinctly different from the five northern stations. All profiles converge to a tighter fit at about 10°C, the isotherm representative of the main thermocline. This is the western North Pacific Central Water. At the bottom of the diagram ($T=1.8^{\circ}\text{C}$, $S=34.6^{\circ}/\text{‰}$) is western North Pacific Deep Water.

C. Kuroshio Anticyclonic Eddy

The initial survey on 16 October by the NAVOCEANO aircraft located an anticyclonic (warm) eddy at $37^{\circ}50'\text{N}$, $143^{\circ}20'\text{E}$ (Cheney, 1977). During the time between the aircraft and ship surveys, the eddy center moved 52 km southeastward at an average speed of 4 km day^{-1} to $37^{\circ}30'\text{N}$, $143^{\circ}45'\text{E}$. The ship XBT survey (figure 7) suggested that the eddy was attached to the northern edge of the Kuroshio. Subsequent satellite imagery on 2 November confirmed that the eddy was indeed coalescing with the Kuroshio. Although interaction with the Kuroshio may have had a slight effect on the eddy during the ship survey, the STD section obtained on 30 October is believed to be representative of the eddy's structure.

The average diameter of the eddy is 120 km (defined by the 6°C isotherm at 400 m). At 400 m, temperatures at the eddy center are 6° to 7°C greater than in the surrounding waters. Kitano (1975) discussed the size and movement of anticyclonic eddies off Japan based on 17 years of data and found that eddies had an average diameter of 130 km, a mean translational speed of less than 1 km day^{-1} , and lifetimes on the order of a year.

The zonal temperature section through the eddy along 37°30'N is shown in figure 13. The isothermal core of approximately 11°C was created during winter by vertical mixing; this indicates that the eddy is at least eight months old. The seasonal thermocline (12° - 18°C) forms a "cap" over the isothermal core. Temperatures at the eddy center are 6°C warmer than outside at 400 m and 0.3°C warmer at 1500 m.

In the anticyclonic eddy, the salinity minimum occurs at 700 m in the center and at 400 m outside (figure 14). Maximum horizontal salinity gradient occurs at 600 m; salinity at the eddy center is 0.5‰ less than outside at this depth. The 34.5‰ isopleth indicates that the eddy extends to at least 1500 m.

The sound speed section (figure 15) indicates little change in SLD across the eddy. Maximum sound speed occurs at the top of the main thermocline in the warm core of the eddy, with a maximum horizontal change of 25 m s⁻¹ at 400 m. The DSC axis is depressed from 400 m in the surrounding water to a depth of 700 m in the center.

Figure 16 is the current velocity section through the warm eddy. The shaded region represents southward flow (toward the reader). Corrections for centripetal accelerations have been applied to the computed geostrophic velocities. Maximum current is approximately 100 cm s⁻¹ (2.1 kt) while the volume transport is 42 x 10⁶ m³ s⁻¹.

Total APE and KE of the eddy are 3.7 x 10²³ ergs and 3.6 x 10²² ergs, respectively (APE/KE = 10). Saunders (1971) calculated a value of 30 for the APE/KE ratio for an anticyclonic Gulf Stream eddy, although the accuracy of this figure is only ± 50%. Khedouri and Gemmill (1974) found the ratio to be 18 for a larger Gulf Stream warm eddy.

The T-S diagrams for the warm Kuroshio eddy (figure 17) appear to be more diverse than those of either the Kuroshio or the cold eddy. This may be due in part to the inherent variability of the confluence zone water, which is being mixed into the warm eddy. An additional factor could be entrainment of Kuroshio water into the eddy during its coalescence. The depth of the salinity minimum for the center station (#27, 780 m), is much deeper than for the outside station (#17, 400 m), as is expected. The T-S curves converge to the Pacific Deep Water.

IV. SUMMARY AND CONCLUSIONS

These observations represent some of the most thorough measurements of Kuroshio eddies presently available. The cyclonic eddy data are particularly significant in that they provide the first detailed description of these features.

Selected physical properties of the two Kuroshio eddies are given in Tables 1 and 2. Similar properties for several Gulf Stream eddies are included. Comparison shows that the cyclonic Kuroshio eddy is remarkably similar to its Atlantic counterparts. No attempt is made here to adjust the values according to the different eddy ages, but the Kuroshio eddy's size, thermal structure, transport, and energy fall well within the range of values for cyclonic Gulf Stream eddies.

Table 2 indicates that the anticyclonic Kuroshio eddy has transport and energy significantly larger than the two Gulf Stream examples. This appears to be due to its larger overall size and depth (it is assumed that effects due to interaction with the Kuroshio are negligible). Gulf Stream eddies of comparable size have been observed (Cheney, 1976) but values of transport and energy are not available.

One fundamental difference in structure between Kuroshio and Gulf Stream eddies is the existence in the Pacific of the intermediate salinity minimum (salinity in the western North Atlantic decreases continuously with depth). Another basic difference is that the main thermocline in the Pacific subtropical gyre is 300 m shallower than in the Atlantic. Nevertheless, it is apparent that Kuroshio and Gulf Stream eddies are dynamically and acoustically similar features.

TABLE 1
PHYSICAL PROPERTIES OF VARIOUS CYCLONIC EDDIES

	Diameter (km)	Max Horizontal ΔT ($^{\circ}C$)	Transport ($10^6 m^3 s^{-1}$)	APE (10^{24} ergs)	KE (10^{22} ergs)	APE KE
<u>KUROSHIO EDDY</u>						
Blumenthal & Cheney (1978)	170 ($9^{\circ}/500$ m) ^a	7	50 (ref 3000 m) ^b	1.3	3.3	40
<u>GULF STREAM EDDIES</u>						
Khedouri & Gemmill (1974)	190 ($15^{\circ}/500$ m)	10	59 (ref 2500 m)	3.0	8.5	35
Cheney & Khedouri (1975)	125 ($15^{\circ}/500$ m)	10	40 (ref 3000 m)	1.0	4.7	21
Cheney & Khedouri (1975)	150 ($15^{\circ}/500$ m)	9	33 (ref 3000 m)	1.2	2.6	46
Cheney & Richardson (1976)	160 ($15^{\circ}/500$ m)	7	60 (ref 3500 m)	0.9	5.6	17

a = intersection of $9^{\circ}C$ isothermal surface with a depth of 500 m

b = reference depth used for transport, APE, and KE calculations

TABLE 2
PHYSICAL PROPERTIES OF VARIOUS ANTICYCLONIC EDDIES

	Diameter (km)	Max Horizontal ΔT (°C)	Transport ($10^6 m^3 s^{-1}$)	APE (10^{24} ergs)	KE (10^{22} ergs)	APE KE
<u>KUROSHIO EDDY</u>						
Blumenthal & Cheney (1978)	125 ($11^\circ/200$ m) ^a ($6^\circ/400$ m)	7	42 (ref 1500 m) ^b	0.4	3.6	10
<u>GULF STREAM EDDIES</u>						
Saunders (1971)	90 ($15^\circ/200$ m)	7		$\sim 0.1^c$	0.3	~ 30
Khedouri & Gemmill (1974)	85 ($15^\circ/200$ m)	7	22 (ref 1500 m)	0.1	0.6	18

a = intersection of the $11^\circ C$ isothermal surface with 200 m
b = reference depth used for transport, APE, and KE calculations
c = estimated from 200 m temperatures in the eddy

ACKNOWLEDGEMENTS

Data presented in this report were collected and processed aboard USNS SILAS BENT by Edward Khedouri, Leon Parke, Gabriel Potocsky, and Ward Senior. Illustrations were done by Glen Voorheis.

REFERENCES

- Cheney, R.E. (1976) A census of rings in the Gulf Stream system. NAVOCEANO Technical Note 3700-44-76, 25 pp. (unpublished report).
- _____ (1977) Synoptic observations of the oceanic frontal system east of Japan. Journal of Geophysical Research, 82 (34), 5459-5468.
- _____ and E. Khedouri (1975) Synoptic observations of two adjacent eddies in the Sargasso Sea. NAVOCEANO Technical Note 6150-36-75, 20 pp. (unpublished report).
- _____ and P.L. Richardson (1976) Observed decay of a cyclonic Gulf Stream ring. Deep-Sea Research, 23, 143-155.
- Fofonoff, N.P. (1962) Dynamics of ocean currents. IN: The Sea, M.N. Hill, ed., McGraw-Hill, 1, 323-395.
- Kawai, H. (1969) Statistical estimation of isotherms indicative of the Kuroshio axis. Deep-Sea Research, 16 (Supp), 109-115.
- Khedouri, E. and W. Gemmill (1974) Physical properties and energy distribution of Gulf Stream eddies. NAVOCEANO Technical Note 6150-22-74, 24 pp., (unpublished report).
- Kitano, K. (1975) Some properties of the warm eddies generated in the confluence zone of the Kuroshio and Oyashio currents. Journal of Physical Oceanography, 5, 245-252.
- Masuzawa, J. (1957) An example of cold eddies south of the Kuroshio. Records of Oceanographic Works in Japan, 3 (1), 1-7.
- _____ (1969) Subtropical mode water. Deep-Sea Research, 16, 463-472.
- Parker, C. (1971) Gulf Stream rings in the Sargasso Sea. Deep-Sea Research, 18, 981-994.
- Saunders, P.M. (1971) Anticyclonic eddies formed from shoreward meanders of the Gulf Stream. Deep-Sea Research, 18, 1207-1219.
- Wilson, W.D. (1960) Equations for the speed of sound in seawater. Journal of the Acoustical Society of America, 32 (10), 641-644.
- Worthington, L.V. (1959) The 18° water in the Sargasso Sea. Deep-Sea Research, 5, 297-305.
- Wright, W.R. (1972) Northern sources of energy for the deep Atlantic. Deep-Sea Research, 19, 865-877.

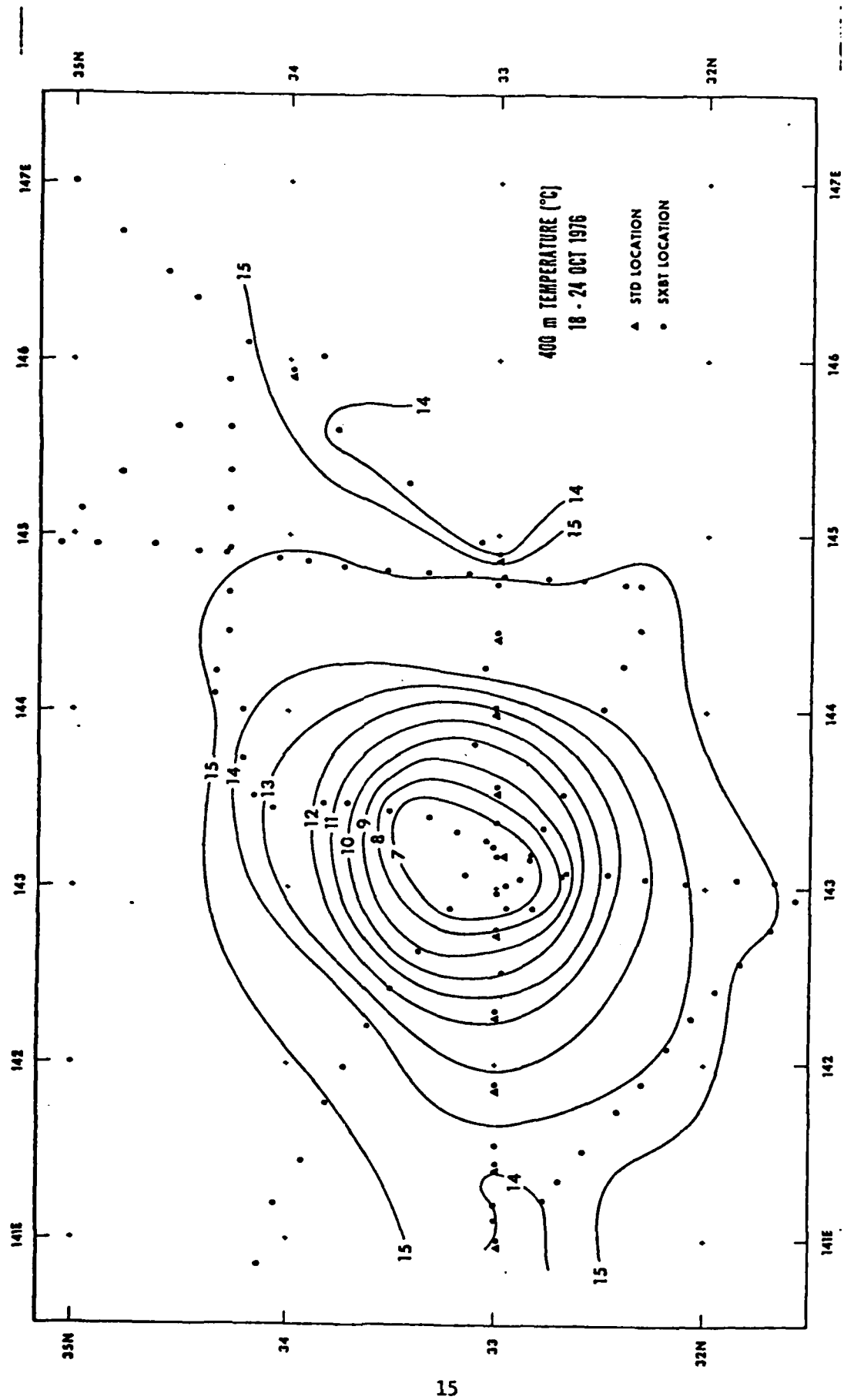


Figure 1 - Temperature (°C) at 400 m in Kuroshio cold eddy, 18-24 October 1976. Locations of STDs and SXBTs are indicated by triangles and dots, respectively.

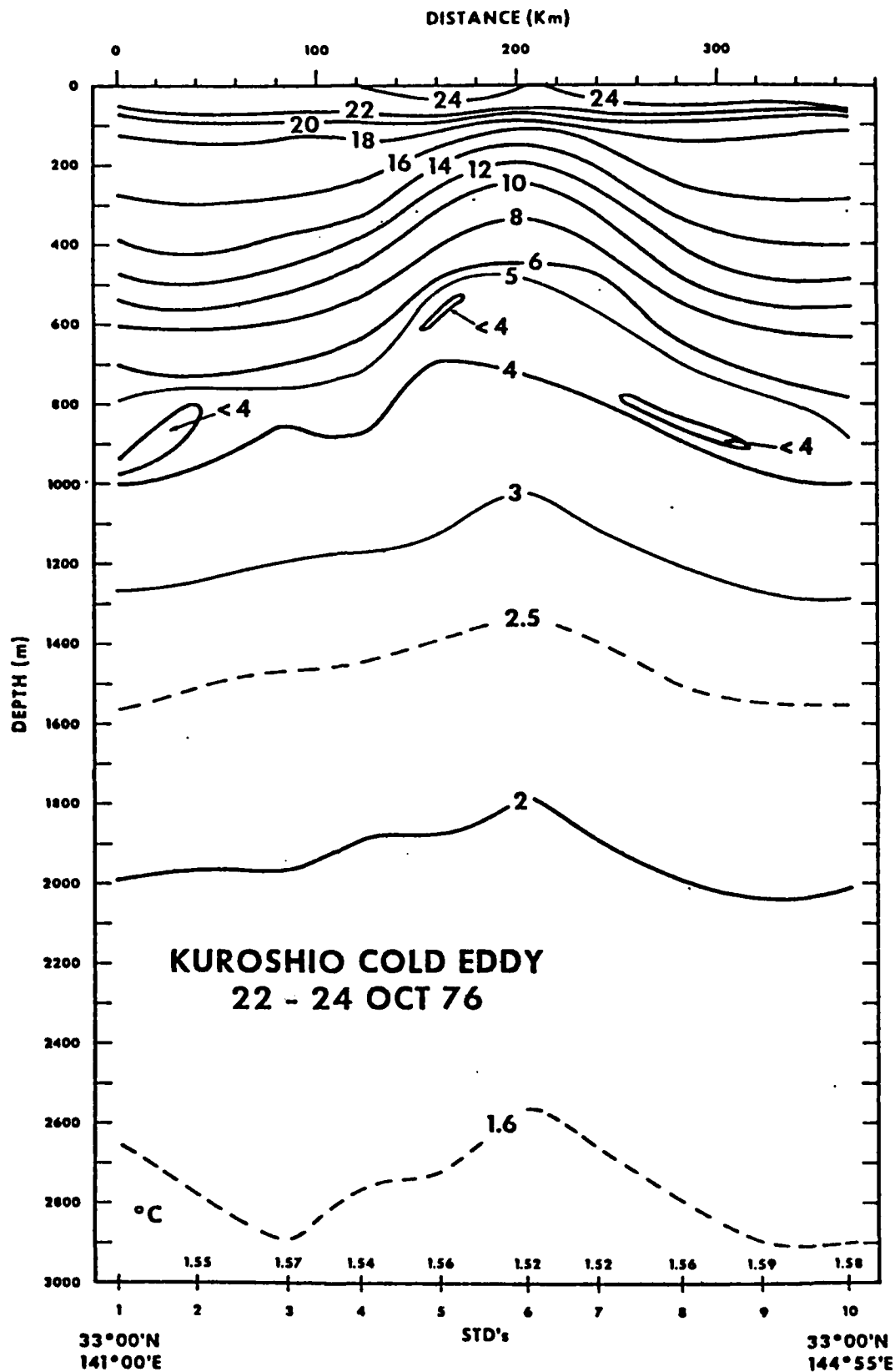


Figure 2 - Temperature ($^{\circ}\text{C}$) structure of the Kuroshio cold eddy.
The main thermocline at the center of the eddy is uplifted
300 m from the surrounding water.

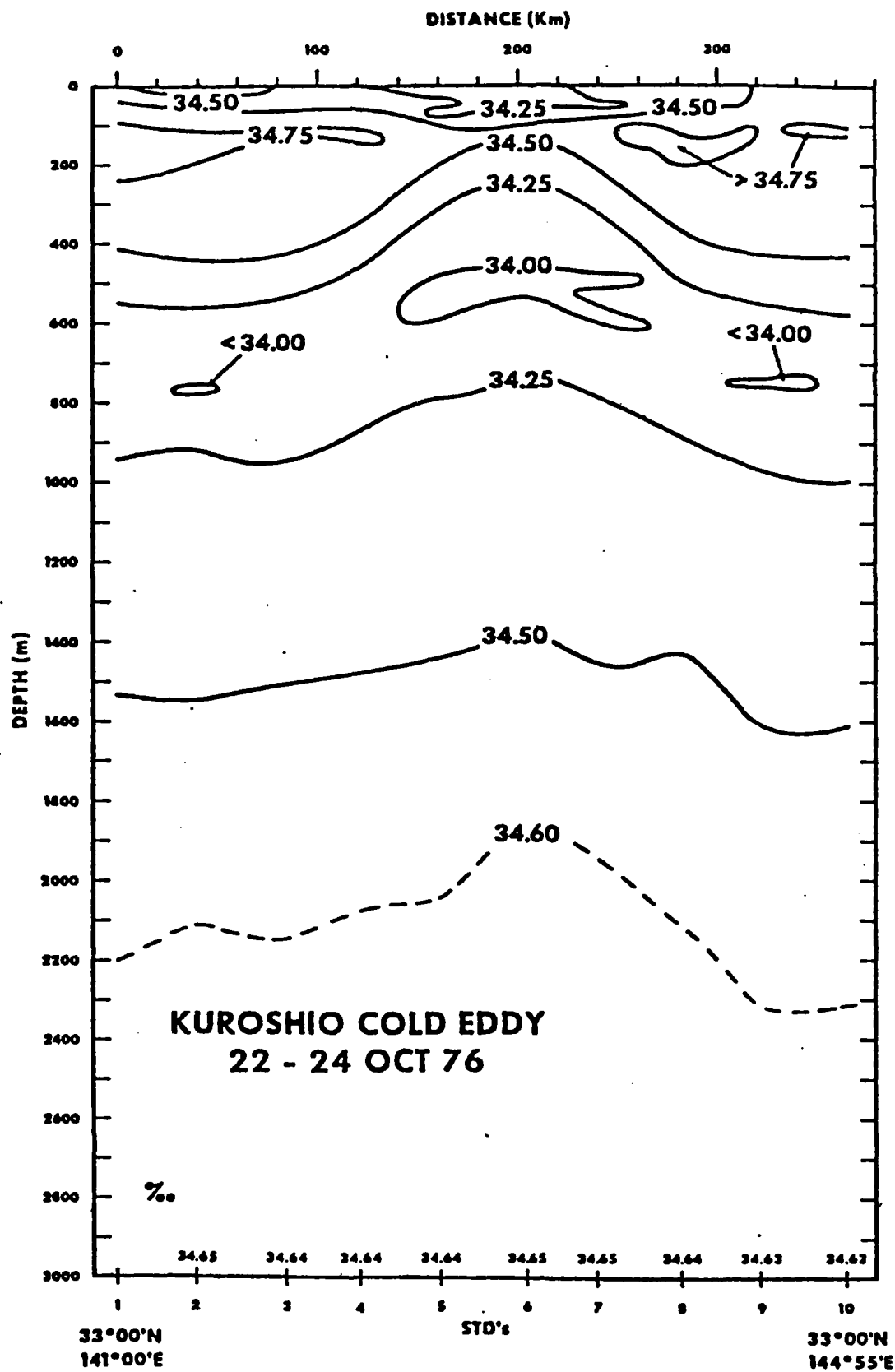


Figure 3 - Salinity (‰) structure of the cold eddy. The salinity minimum is North Pacific Intermediate Water.

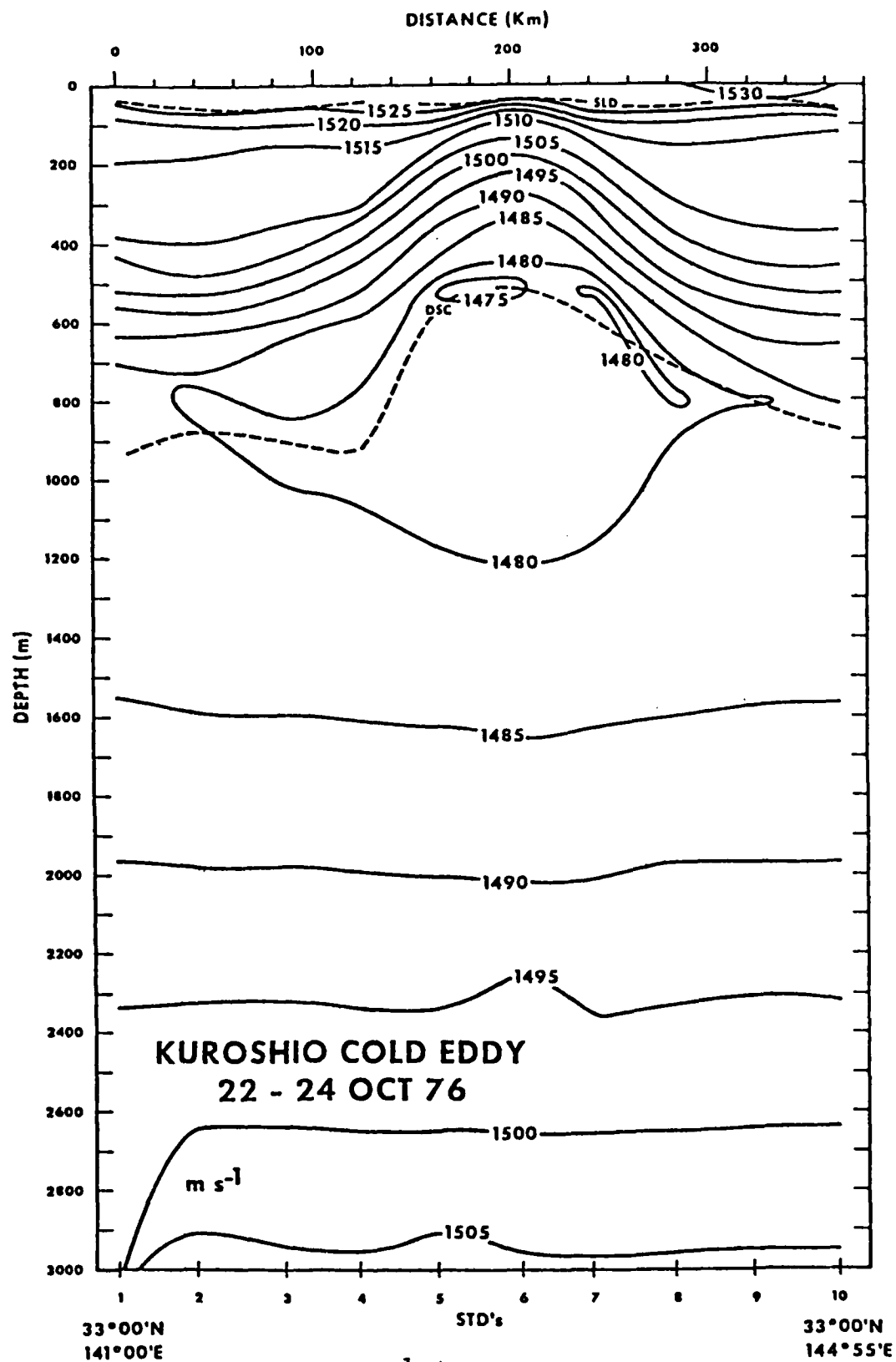


Figure 4 - Sound speed (m s^{-1}) structure of the cold eddy.
SLD and DSC are indicated by dashed lines.

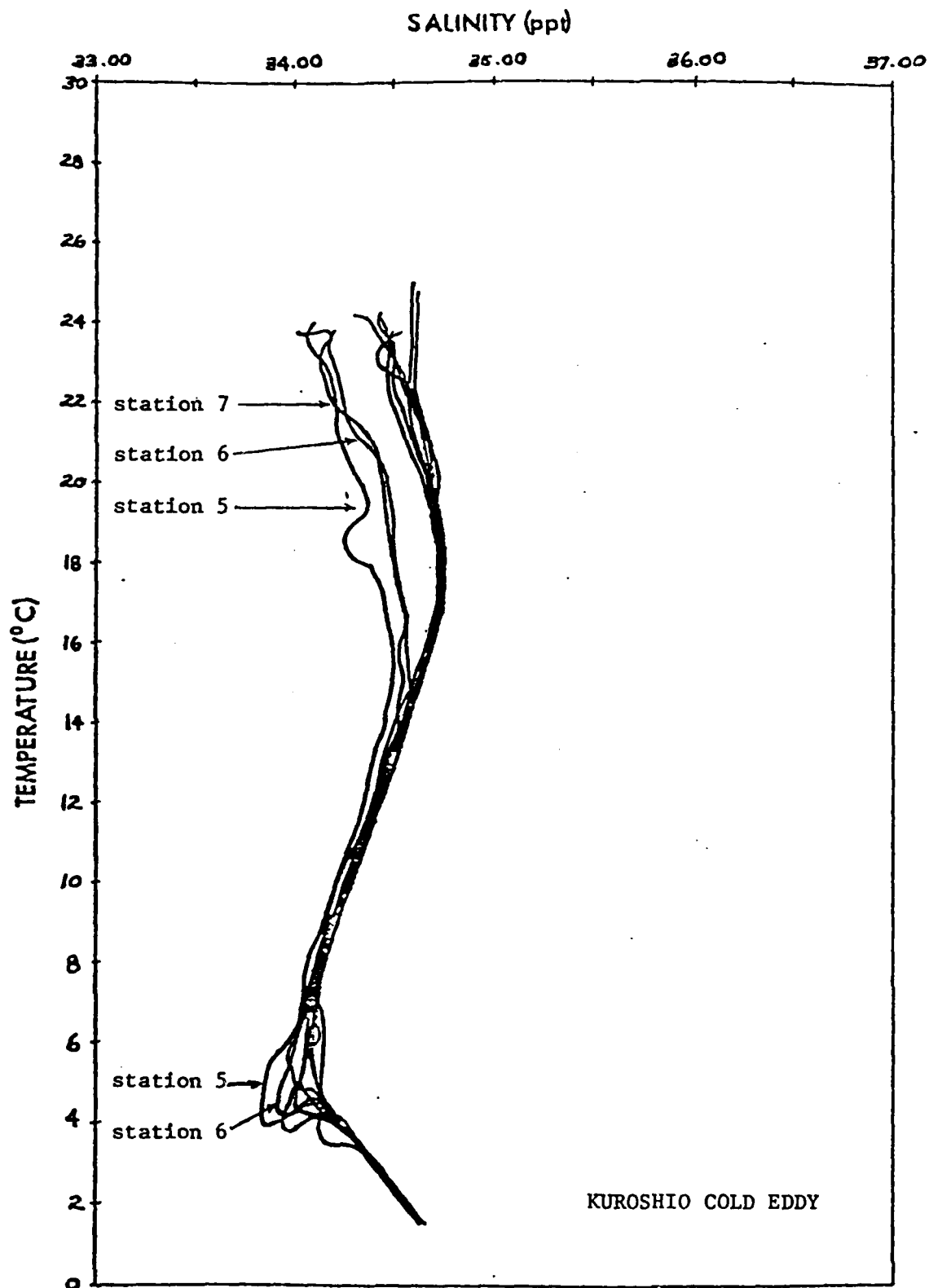


Figure 6 - T-S curves from 10 STD stations in the Kuroshio cold eddy. Lowest salinities occur at the central STD station (5).

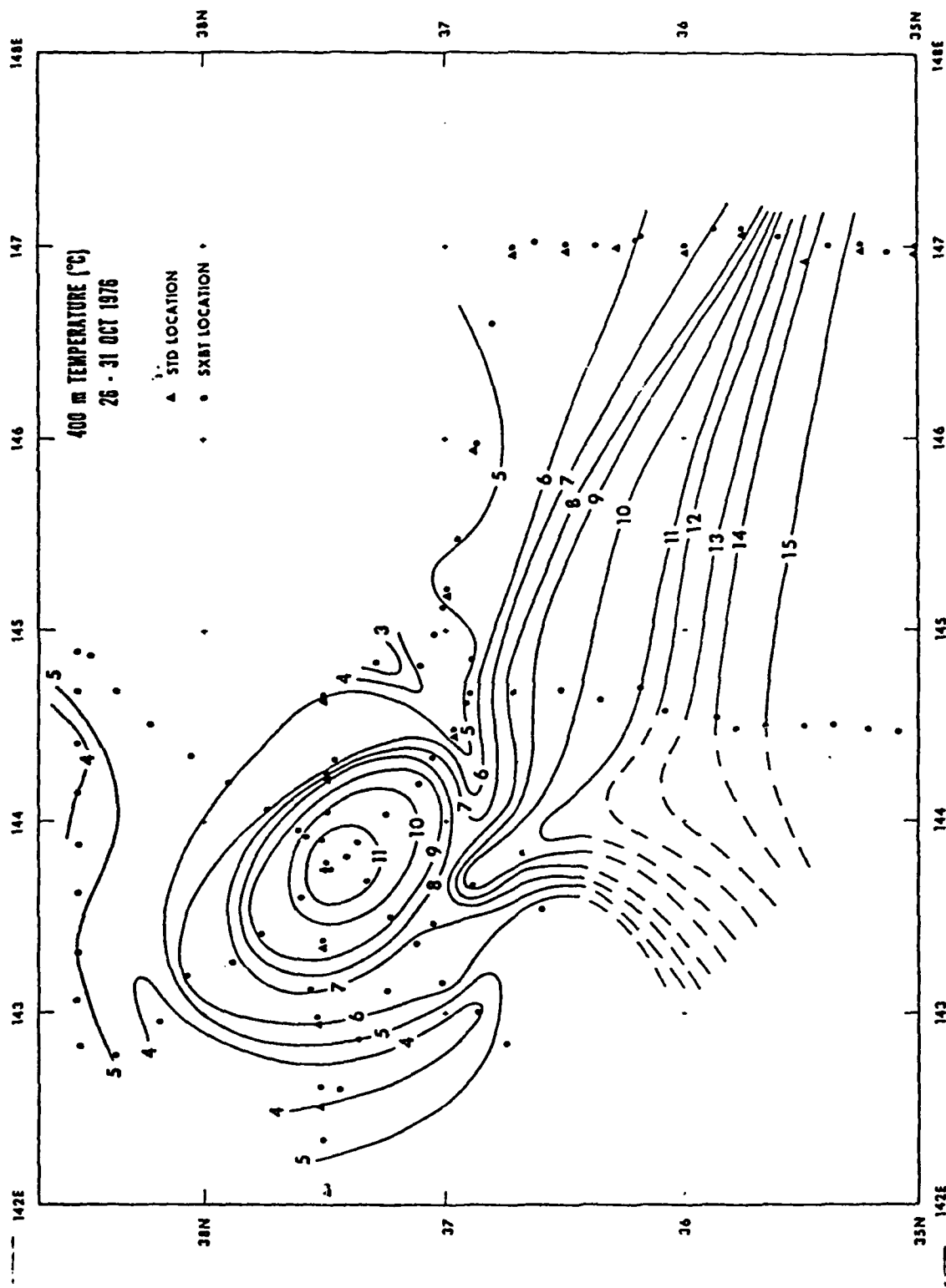


Figure 7. Temperature (°C) at 400 m in the Kuroshio and the warm eddy, 26-31 October 1976. Locations of STDs and SXBTs are indicated by triangles and dots, respectively. The warm eddy is coalescing with the Kuroshio.

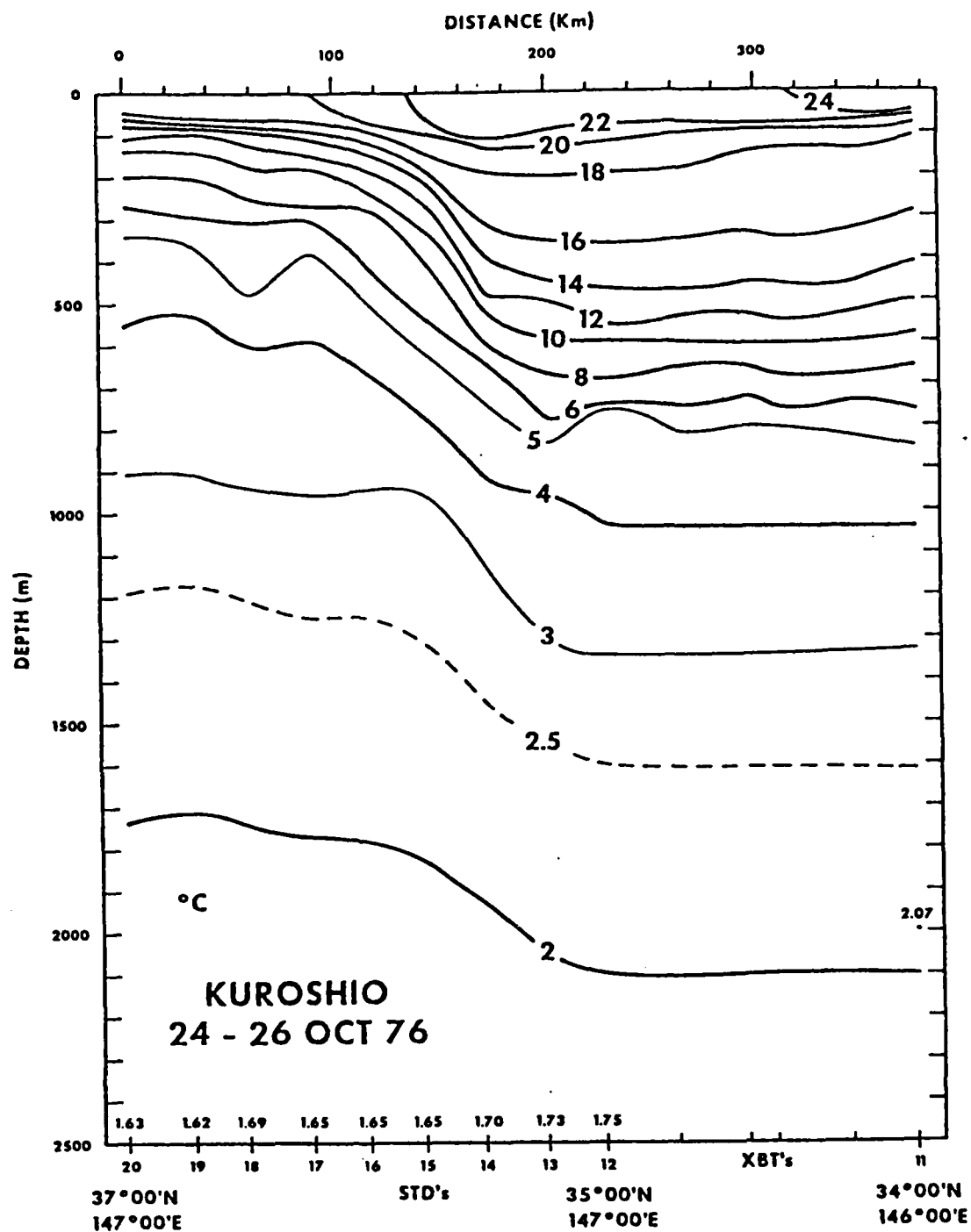


Figure 8 - Temperature ($^{\circ}\text{C}$) section across the Kuroshio, 24-26 October 1976. The nearly isothermal (16° - 18°C) layer south of the Kuroshio is Subtropical Mode Water.

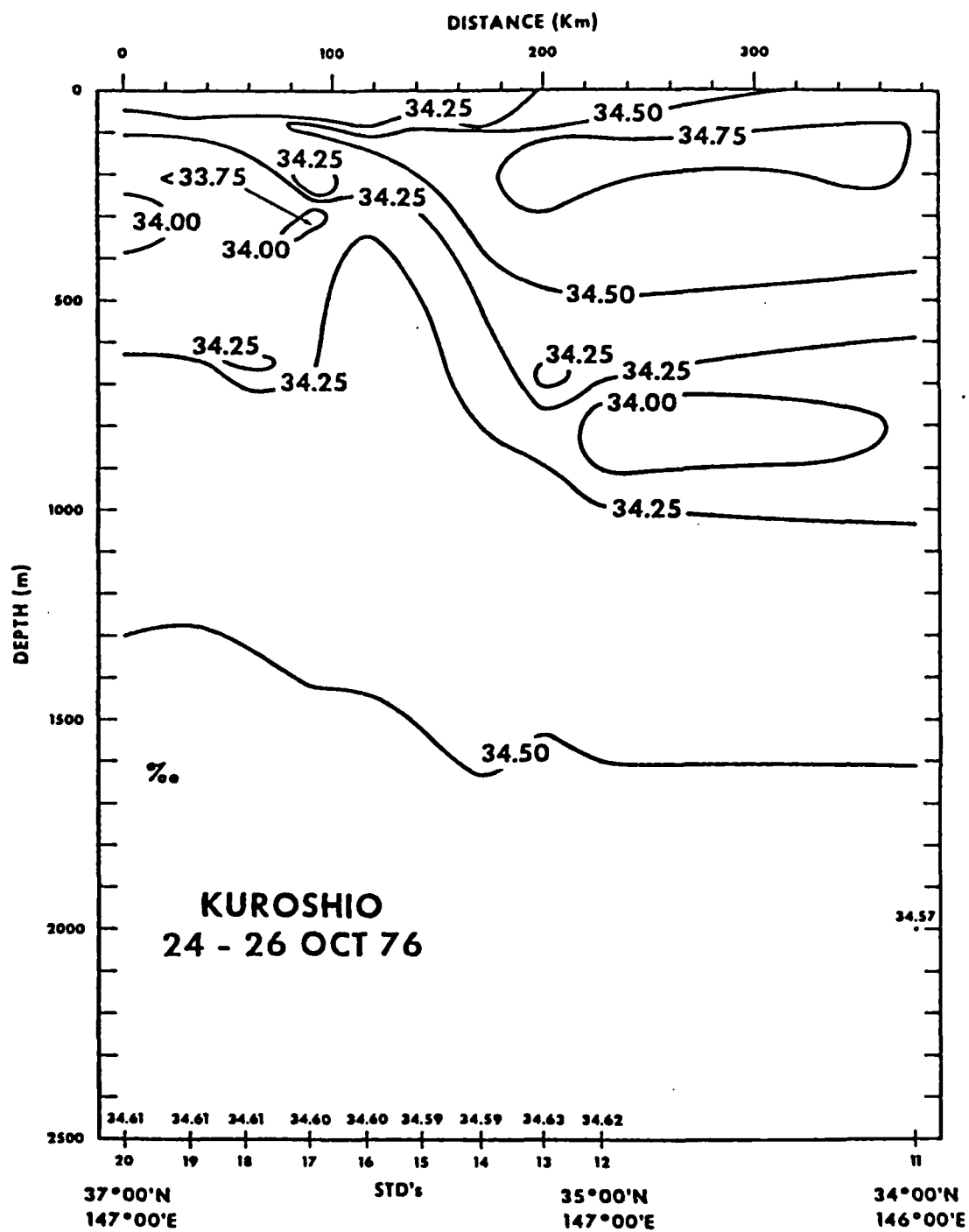


Figure 9 - Salinity (‰) structure across the Kuroshio. The axis of the salinity minimum is 500 m deeper south of the Kuroshio.

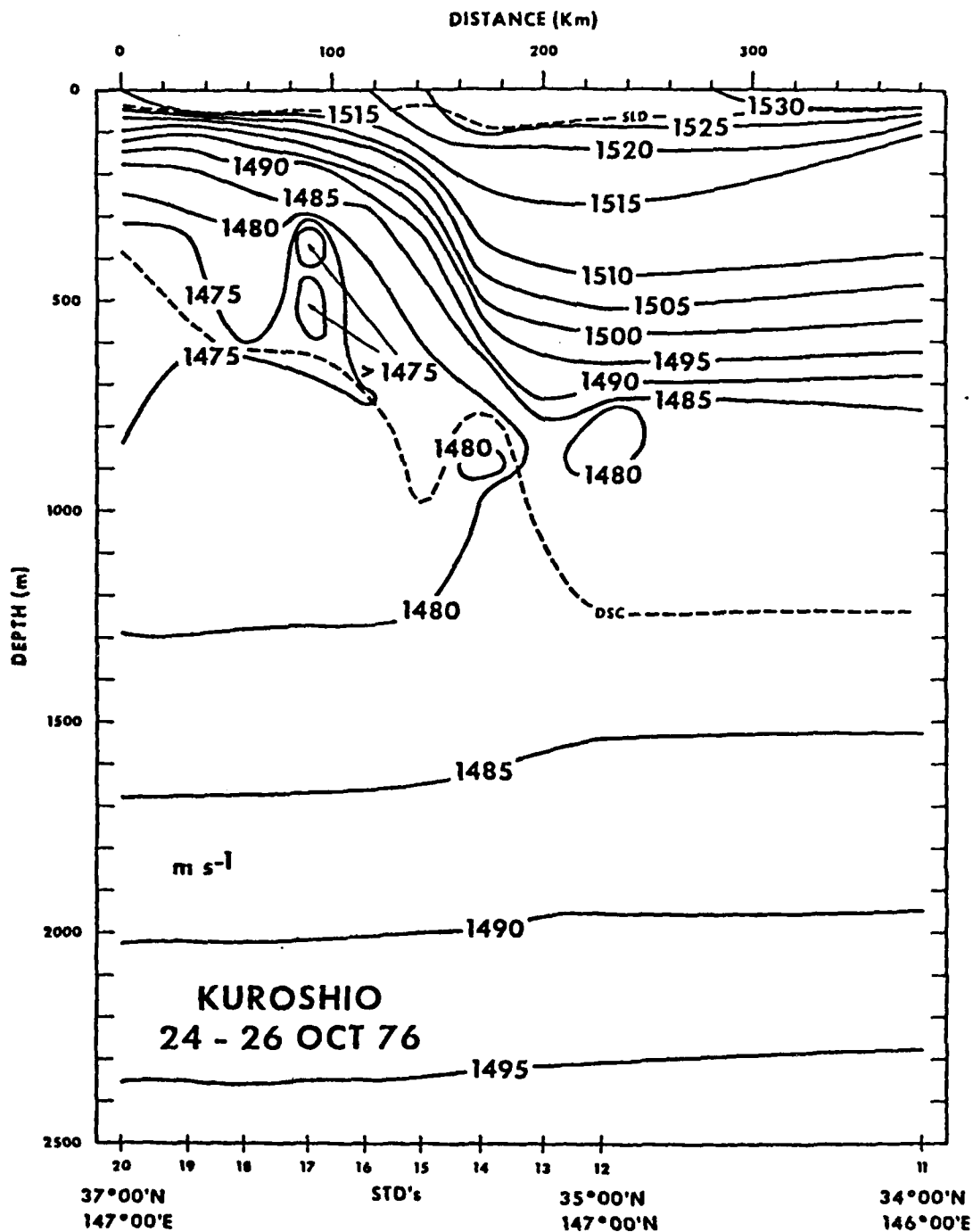


Figure 10 - Sound speed (m s^{-1}) structure of the Kuroshio. The DSC is 800 m shallower on the north side.

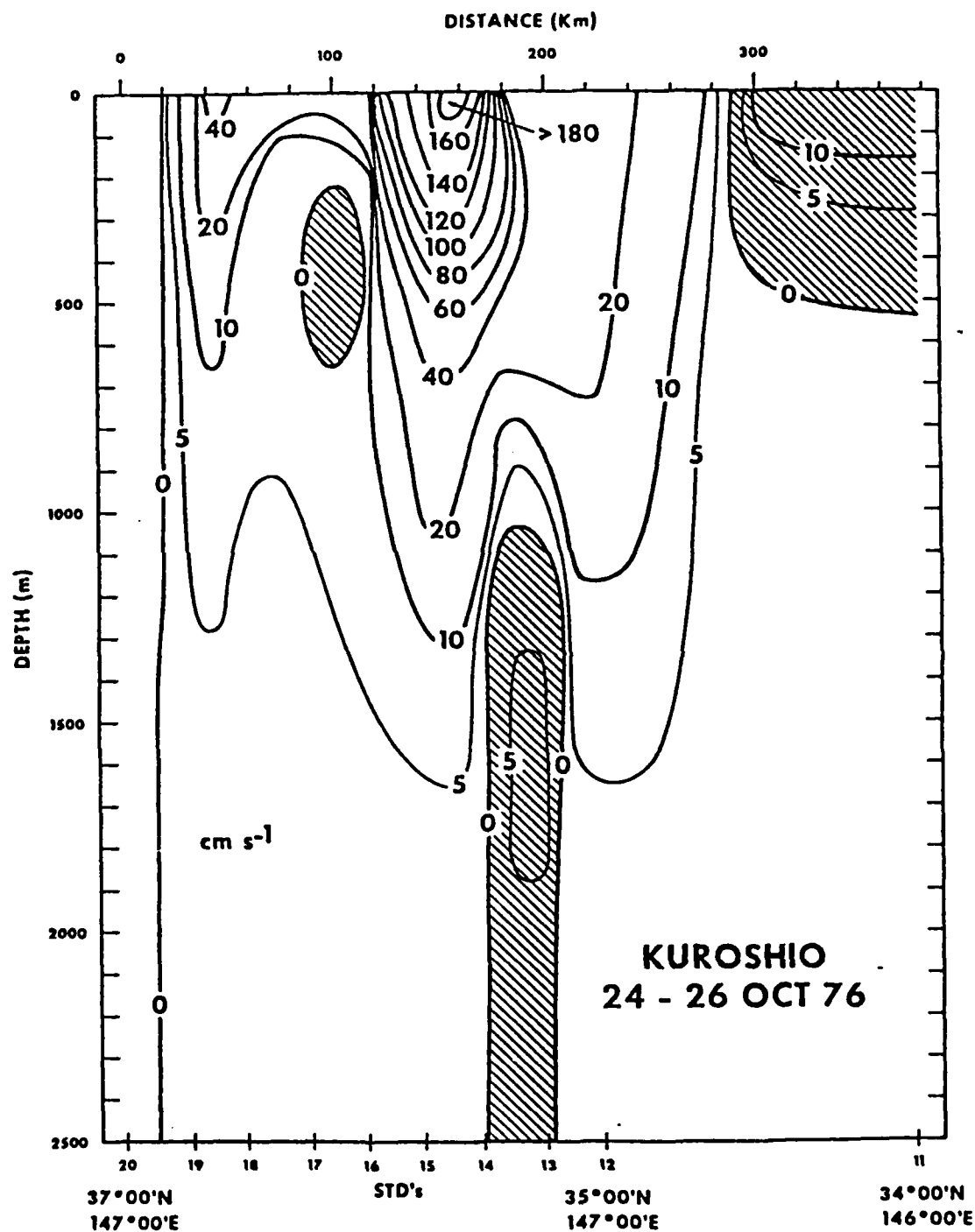


Figure 11 - Geostrophic velocity (cm s^{-1}) structure of the Kuroshio. Volume transport due to the Kuroshio is $57 \times 10^6 \text{ m}^3 \text{ s}^{-1}$. Shaded areas represent westward flow.

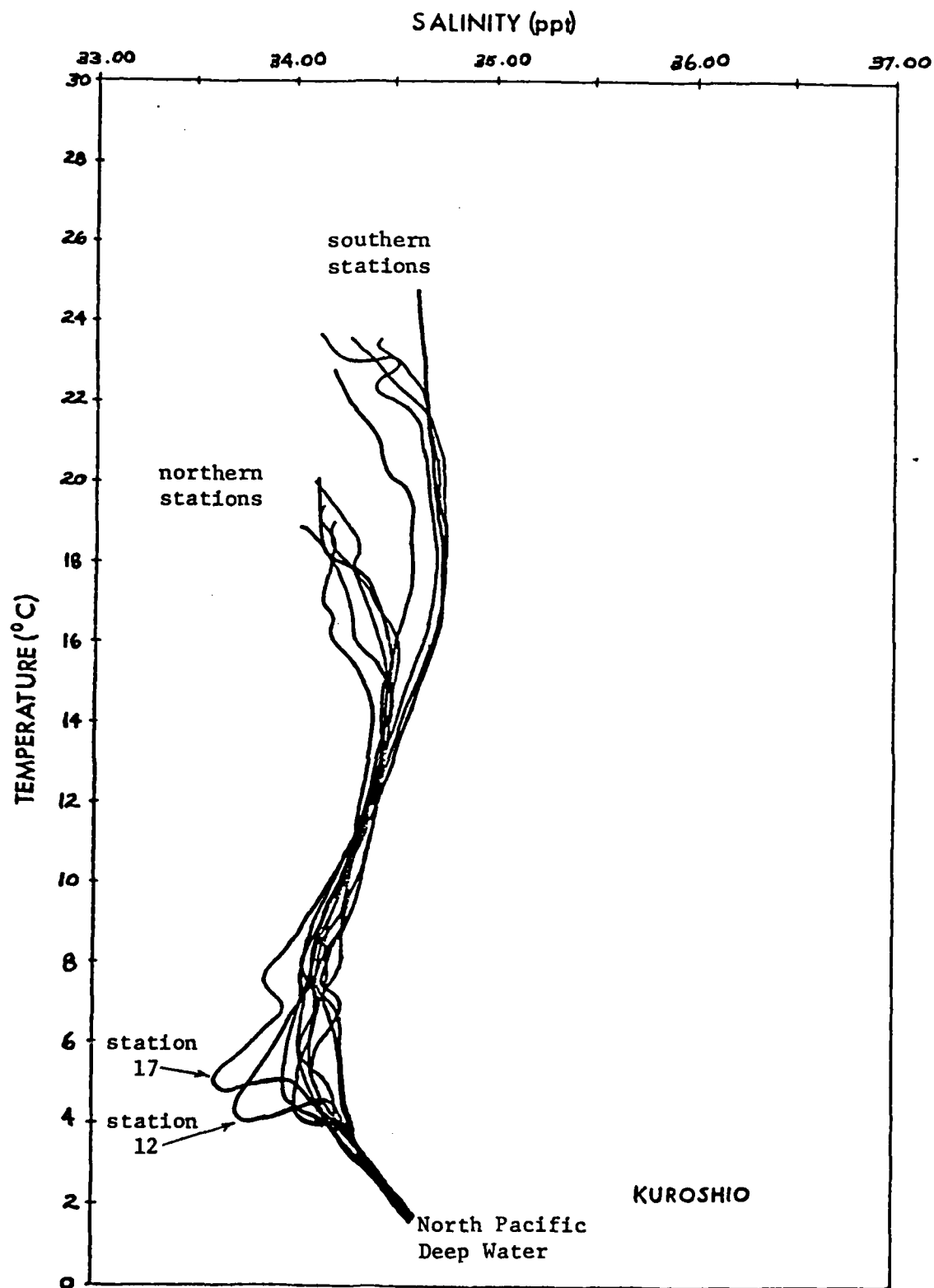


Figure 12 - T-S curves for Kuroshio STD stations. The northern edge is represented by station 17 and the southern edge by station 12.

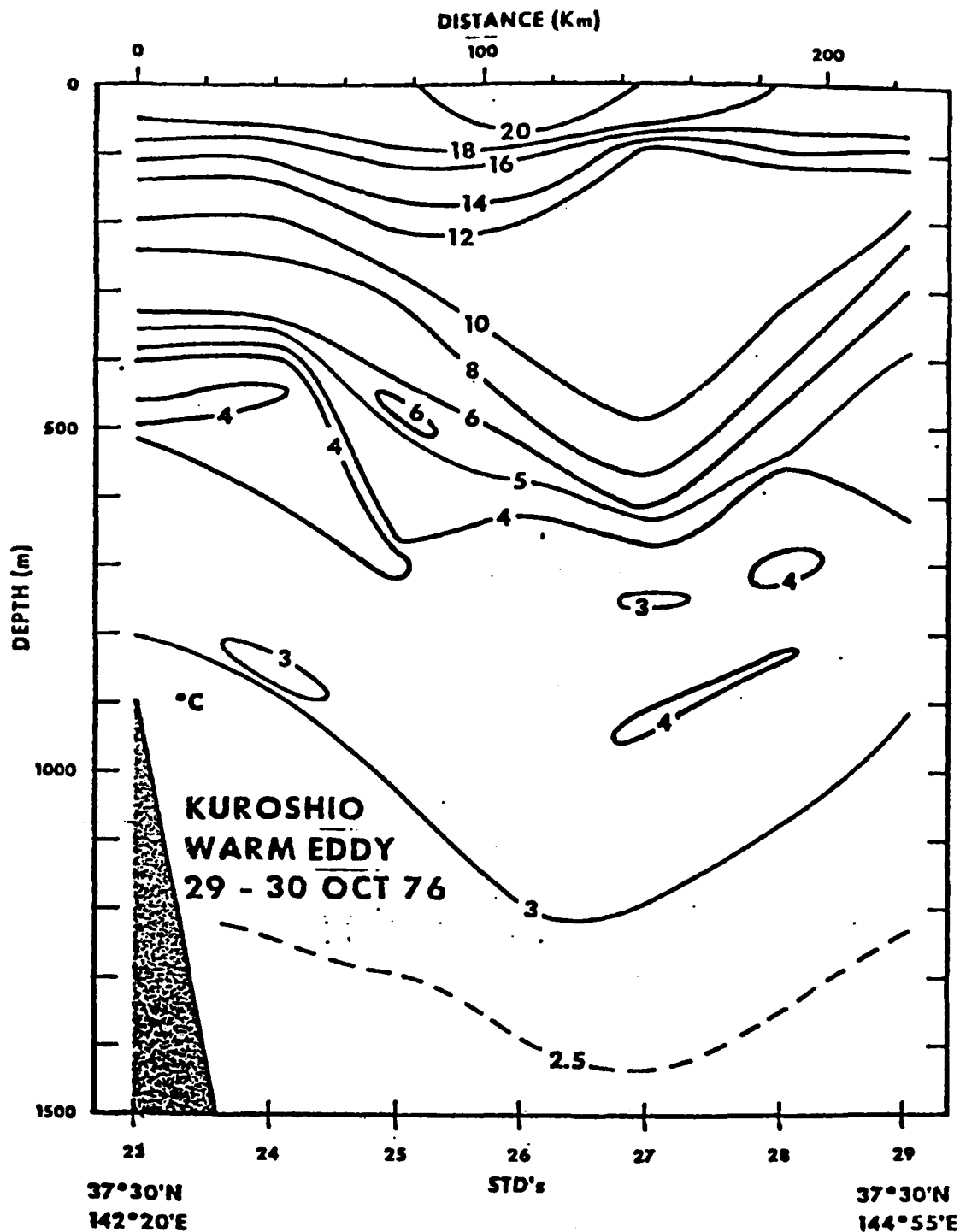


Figure 13 - Temperature ($^{\circ}\text{C}$) structure of the Kuroshio warm eddy, 29-30 October 1976. This eddy is estimated to be at least 8 months old.

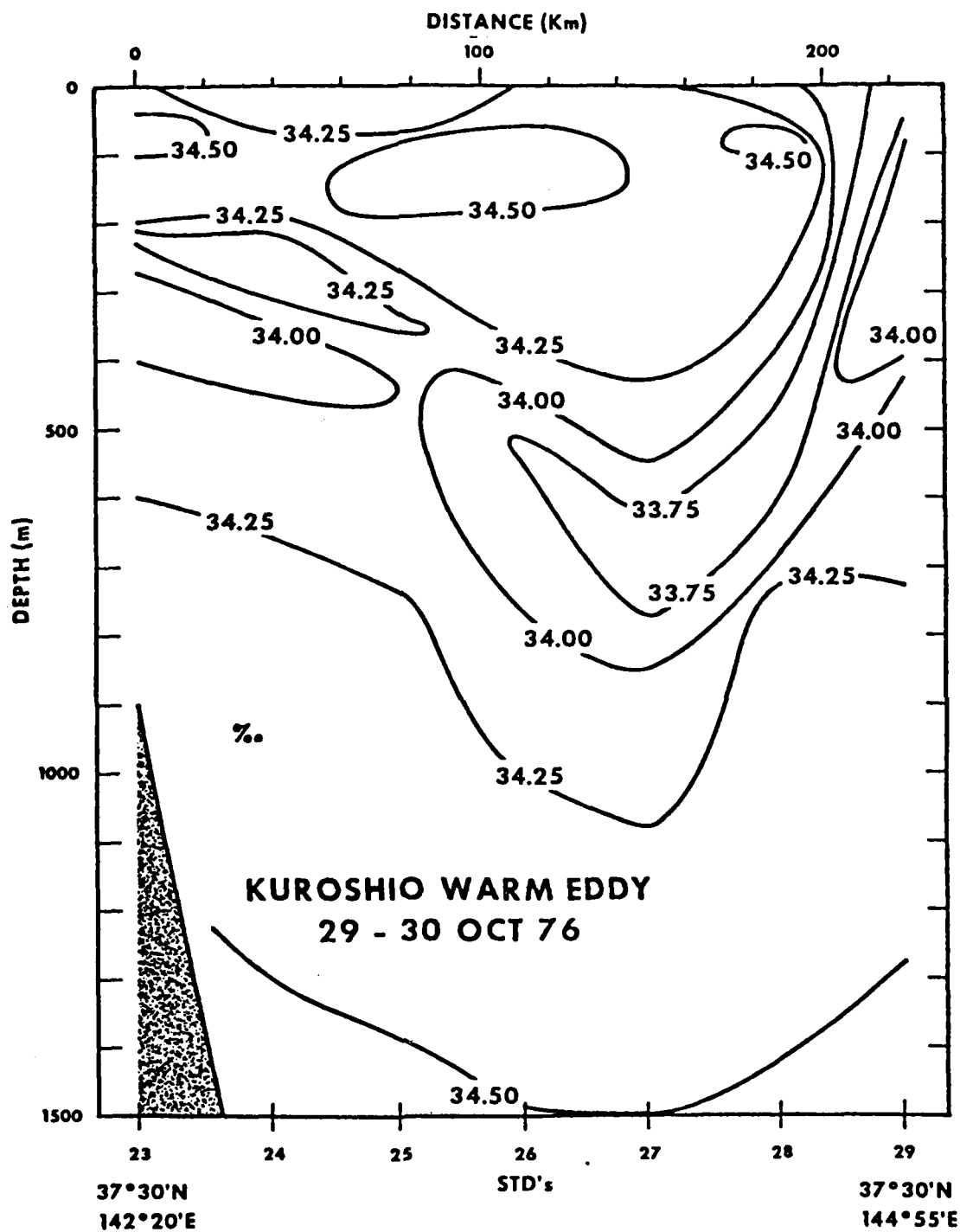


Figure 14 - Salinity (‰) structure of the Kuroshio warm eddy. The salinity minimum in the center is 300 m deeper than in the surrounding waters.

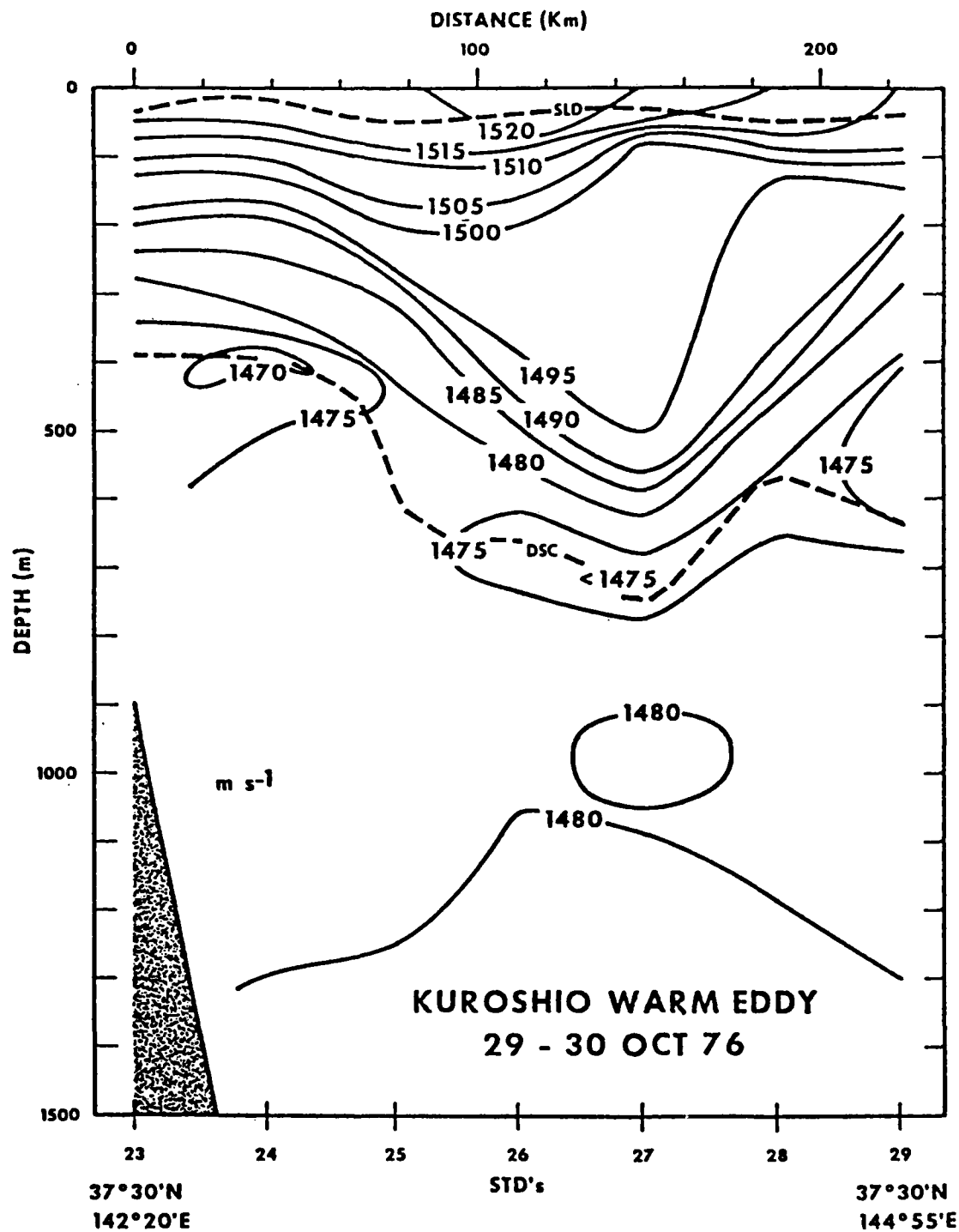


Figure 15 - Sound speed (m s^{-1}) structure of the Kuroshio warm eddy. The DSC is 300 m deeper in the center of the eddy than in the surrounding water.

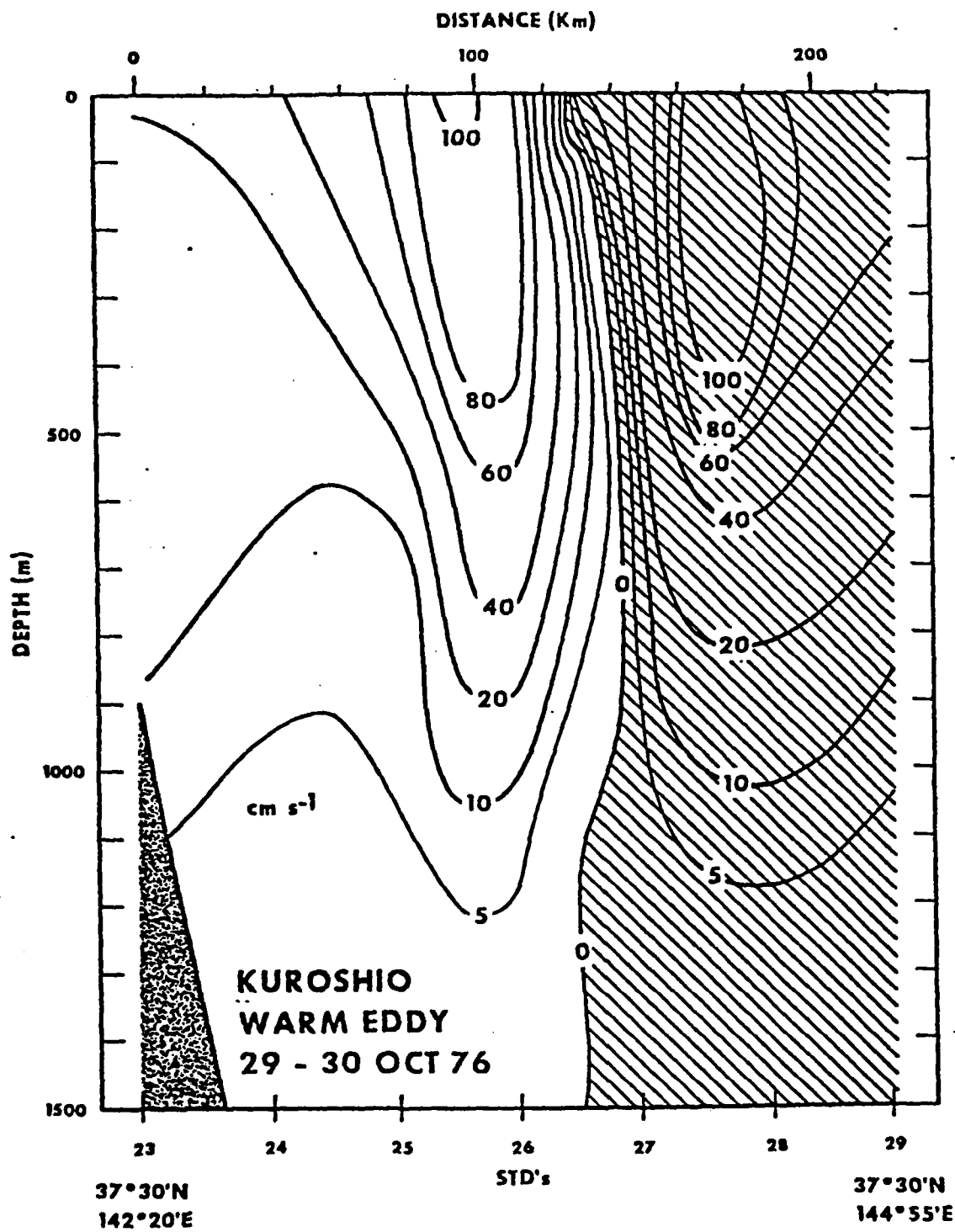


Figure 16 - Gradient current (cm s^{-1}) structure of the Kuroshio warm eddy. The volume transport is $42 \times 10^6 \text{ m}^3 \text{ s}^{-1}$. Shaded areas represent southward flow.

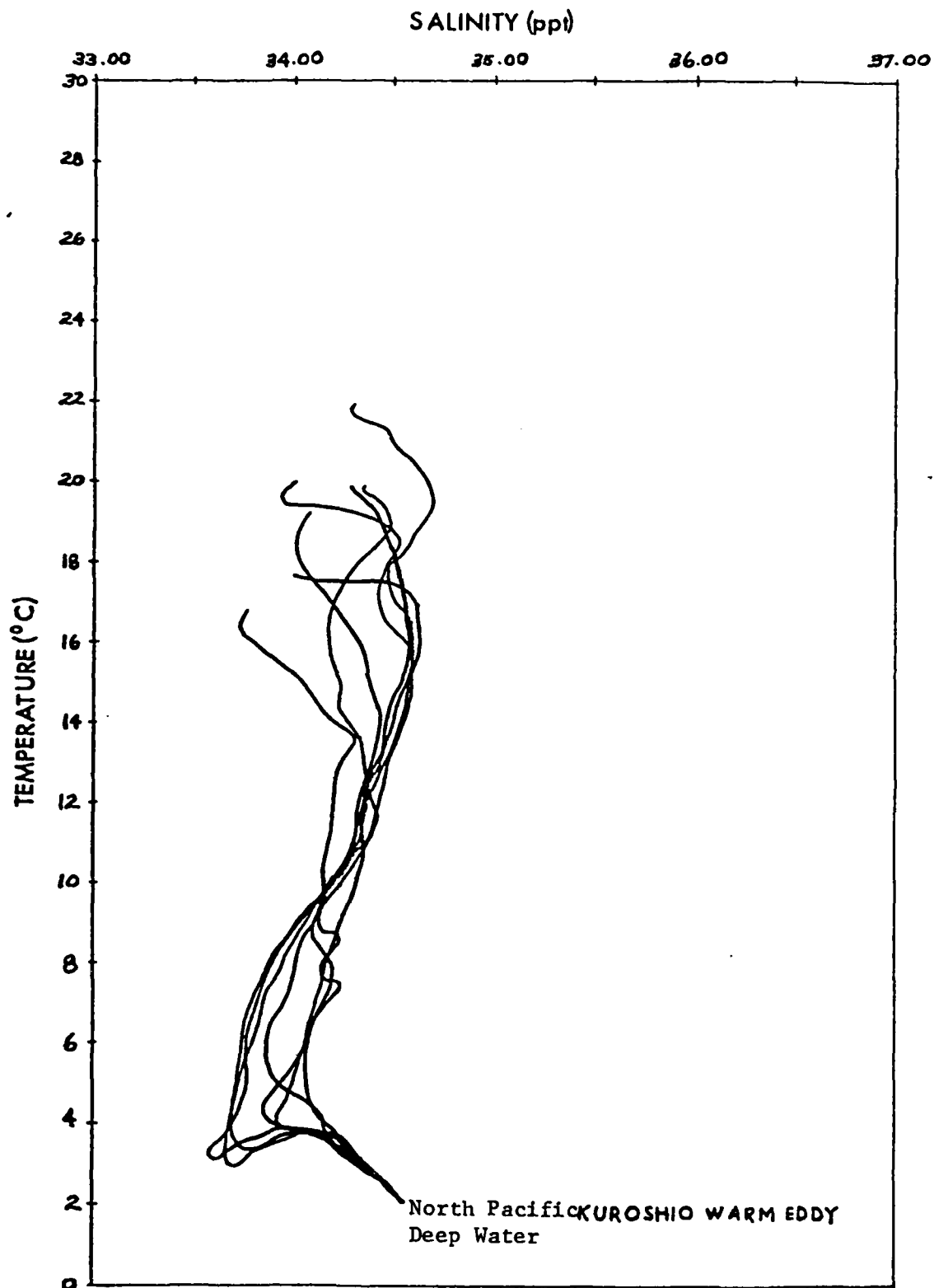


Figure 17 - T-S curves for the Kuroshio warm eddy STD stations. The extreme variability of the confluence zone water is evident in the looseness of the fit in the T-S relationship.

A P P E N D I X A

STD DATA FROM KUROSHIO COLD EDDY

(22-24 October 1976)

AND CALCULATED PARAMETERS

STATION NO. 1

LAT LON DA MO YR HR
32058N 141D 2M 22 11.76 3

125A

12

DEPTH (M)	TEMP (C)	SAL (O/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN WEIGHT (M)	ADJOP (CC/GM)	STANDARD (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0	23.94	34.47	23.27	23.27	.9773	2901.38501	.9726	2898.20510	.00461	3.17992	1531.74
20	23.97	34.47	23.27	23.16	.9772	2881.44070	.9726	2878.75315	.00462	3.08756	1532.09
40	23.95	34.49	23.29	23.07	.9771	2862.29422	.9725	2859.30301	.00461	2.99522	1532.40
60	21.54	34.56	24.03	24.29	.9763	2842.76462	.9724	2839.85468	.00392	2.90995	1526.77
80	19.60	34.70	24.66	25.01	.9756	2823.24573	.9723	2820.40815	.00332	2.83758	1521.98
100	18.74	34.74	24.90	25.14	.9753	2803.73687	.9722	2800.96343	.00309	2.77343	1520.00
125	18.03	34.74	25.08	25.44	.9750	2779.35825	.9721	2776.66008	.00293	2.69818	1518.31
150	17.60	34.76	25.20	25.87	.9748	2754.98587	.9720	2752.35954	.00282	2.62633	1517.49
175	17.19	34.74	25.29	26.06	.9746	2730.61055	.9719	2728.06182	.00275	2.55672	1516.66
200	16.89	34.74	25.36	26.24	.9744	2706.25449	.9717	2703.76691	.00269	2.48077	1516.18
250	16.37	34.71	25.46	26.56	.9741	2647.54192	.9715	2665.10553	.00261	2.35630	1515.39
300	15.58	34.67	25.61	26.94	.9738	2608.84463	.9713	2606.61538	.00248	2.22924	1513.72
350	14.75	34.61	25.74	27.30	.9734	2560.16478	.9711	2558.05643	.00236	2.10833	1511.84
400	13.54	34.52	25.93	27.71	.9730	2511.50326	.9708	2509.50869	.00219	1.99456	1508.68
450	12.34	34.44	26.10	28.12	.9726	2442.86116	.9706	2460.97211	.00203	1.88904	1505.37
500	11.17	34.31	26.23	28.48	.9723	2414.23718	.9704	2412.44668	.00191	1.79049	1501.89
550	9.59	34.24	26.45	28.94	.9719	2345.63253	.9702	2363.93239	.00170	1.70013	1496.93
600	8.10	34.14	26.60	29.34	.9715	2317.04823	.9700	2315.42922	.00154	1.61900	1492.03
650	7.01	34.13	26.75	29.73	.9711	2268.48260	.9697	2266.93715	.00140	1.54545	1488.62
700	6.21	34.11	26.84	30.06	.9708	2219.93398	.9695	2218.45615	.00131	1.47783	1486.25
750	5.44	34.11	26.94	30.39	.9705	2171.40103	.9693	2169.98622	.00121	1.41480	1484.06
800	4.94	34.14	27.02	30.71	.9702	2122.88347	.9691	2121.52733	.00113	1.35614	1482.88
850	4.49	34.17	27.10	31.03	.9699	2074.38084	.9688	2073.07946	.00106	1.30137	1481.81
900	4.25	34.21	27.15	31.32	.9696	2025.89245	.9686	2024.64261	.00100	1.24944	1481.69
950	3.99	34.25	27.21	31.61	.9694	1977.41782	.9684	1976.21674	.00095	1.20107	1481.49
1000	4.00	34.30	27.25	31.88	.9691	1928.95635	.9682	1927.80184	.00092	1.15451	1482.44
1100	3.50	34.35	27.34	32.44	.9686	1832.07225	.9678	1831.00488	.00083	1.06737	1482.06
1200	3.20	34.39	27.40	32.97	.9681	1735.23911	.9673	1734.25158	.00077	.98752	1482.52
1300	2.95	34.43	27.46	33.49	.9676	1638.45496	.9669	1637.54101	.00072	.91315	1483.18
1400	2.74	34.46	27.50	33.99	.9671	1541.71161	.9664	1540.87542	.00068	.84319	1484.17
1500	2.60	34.49	27.54	34.49	.9667	1445.02716	.9660	1444.25227	.00064	.77660	1405.12
1725	2.30	34.53	27.59	35.68	.9656	1227.64537	.9650	1227.00745	.00059	.63792	1407.68
1950	2.04	34.58	27.65	36.67	.9646	1049.90448	.9641	1049.27925	.00054	.51119	1490.53
2175	1.89	34.59	27.67	37.72	.9637	0793.55898	.9631	0793.16611	.00052	.39287	1493.64
2400	1.70	34.62	27.71	38.78	.9627	0576.84747	.9622	0576.56651	.00048	.28097	1496.71
2625	1.60	34.62	27.72	39.80	.9617	0360.35288	.9613	0360.17890	.00047	.17398	1500.14
2850	1.54	34.64	27.74	40.82	.9608	0144.07062	.9603	0144.00100	.00046	.06081	1503.97
3000	1.55	34.65	27.75	41.89	.9602	0	.9597	0	.00000	.00000	1506.45

STATION NO. 2

LAT LON DA MO YR HR
32059M141027H 22 11 76 12

1259

13

DEPTH (M)	TEMP (C)	SAL (O/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN WEIGHT (N)	AJ50P (CC/GM)	STANDARD (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0	23.05	34.55	23.37	23.37	.9772	2911.42722	.9726	2898.20510	.00452	3.22210	1531.56
20	23.77	34.50	23.35	23.44	.9771	2881.88457	.9726	2878.75315	.00455	3.13141	1531.64
40	23.75	34.50	23.36	23.43	.9770	2842.34350	.9725	2859.30301	.00455	3.04048	1531.92
60	23.60	34.44	23.37	23.43	.9769	2842.40428	.9724	2839.85468	.00454	2.94459	1531.83
80	20.61	34.67	24.37	24.72	.9759	2823.27636	.9723	2820.40815	.00360	2.86820	1524.71
100	19.44	34.71	24.70	25.14	.9755	2803.76244	.9722	2800.46343	.00328	2.79939	1521.91
125	18.41	34.75	25.00	25.45	.9751	2779.38001	.9721	2776.66008	.00301	2.72072	1519.42
150	17.00	34.75	25.15	25.41	.9748	2745.00672	.9720	2752.35954	.00287	2.64716	1518.07
175	17.37	34.76	25.26	24.03	.9746	2730.63630	.9719	2728.06182	.00270	2.57654	1517.22
200	16.91	34.74	25.35	24.94	.9744	2706.27513	.9717	2703.76971	.00269	2.50820	1516.24
250	16.47	34.72	25.44	24.45	.9741	2657.56087	.9715	2655.18553	.00262	2.37532	1515.70
300	15.92	34.69	25.55	24.87	.9738	2608.86169	.9713	2606.61538	.00254	2.24631	1514.80
350	15.19	34.64	25.67	27.22	.9735	2560.17856	.9711	2558.05643	.00243	2.12211	1513.28
400	14.32	34.59	25.82	27.60	.9731	2511.51263	.9708	2509.50869	.00230	2.00394	1511.26
450	13.14	34.49	25.99	28.00	.9728	2462.86504	.9706	2460.97211	.00214	1.89293	1508.07
500	11.82	34.41	26.18	28.43	.9724	2414.23702	.9704	2412.44668	.00196	1.79033	1504.29
550	10.22	34.30	26.39	28.87	.9719	2365.62963	.9702	2363.93239	.00176	1.69723	1499.30
600	8.34	34.17	26.59	29.32	.9711	2317.04330	.9700	2315.42922	.00156	1.61408	1493.06
650	7.00	34.10	26.73	29.71	.9711	2268.47671	.9697	2266.93715	.00142	1.53955	1488.54
700	6.56	34.16	26.84	30.05	.9708	2219.92732	.9695	2218.45615	.00132	1.47116	1487.67
750	5.32	34.07	26.92	30.38	.9705	2171.39382	.9693	2169.98622	.00123	1.40759	1483.43
800	4.23	33.97	26.97	30.68	.9702	2122.87505	.9691	2121.52733	.00117	1.34771	1479.62
850	4.13	34.10	27.08	31.02	.9699	2074.37127	.9688	2073.07946	.00107	1.29180	1480.21
900	4.20	34.20	27.15	31.32	.9696	2025.88264	.9686	2024.42661	.00100	1.24002	1481.47
950	4.07	34.26	27.21	31.61	.9694	1977.40791	.9684	1976.21674	.00095	1.19117	1481.84
1000	3.74	34.28	27.26	31.90	.9691	1928.44674	.9682	1927.00104	.00090	1.14449	1481.40
1100	3.44	34.34	27.34	32.44	.9686	1879.06319	.9678	1878.03048	.00083	1.05830	1481.80
1200	3.11	34.39	27.41	32.98	.9681	1830.23043	.9673	1829.25158	.00076	.97804	1482.13
1300	2.86	34.43	27.47	33.50	.9676	1781.44739	.9669	1780.54181	.00071	.90558	1482.75
1400	2.71	34.45	27.49	33.99	.9671	1732.71165	.9664	1731.87542	.00068	.83622	1483.86
1500	2.52	34.48	27.53	34.49	.9666	1684.02233	.9660	1683.14942	.00064	.77006	1484.76
1725	2.21	34.54	27.61	35.60	.9656	1635.44052	.9650	1634.52227	.00058	.63307	1487.39
1950	2.01	34.59	27.66	36.49	.9646	1586.8885	.9641	1586.07925	.00052	.50960	1490.32
2175	1.84	34.60	27.68	37.73	.9636	1538.56013	.9631	1537.76611	.00051	.39401	1493.52
2400	1.75	34.62	27.71	38.77	.9627	1490.84914	.9622	1490.05651	.00048	.28263	1496.92
2625	1.64	34.63	27.72	39.80	.9617	1442.35375	.9613	1441.57890	.00047	.17485	1500.42
2850	1.59	34.64	27.74	40.82	.9608	1394.07125	.9603	1393.21444	.00046	.06945	1504.01
3000	1.56	34.64	27.74	41.49	.9602	0	.9597	0	.00000	.00000	1506.44

CENTER OF EDDY IS 181.01KM FROM VELOCITY PROFILE

STATION NO. 3

LAT LON OA MO YR HR
32059N 141053W 22 11-76 17

14

1259

DEPTH (M)	TEMP (C)	SAL (O/100)	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN WEIGHT (M)	ADSP (CC/GM)	STANDARD (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0	23.74	34.49	23.35	23.35	.9772	2901.34617	.9726	2698.20510	.00454	3.14108	1531.22
20	23.70	34.49	23.36	23.45	.9771	2881.40352	.9726	2678.75315	.00453	3.05038	1531.46
40	23.71	34.49	23.36	23.44	.9770	2862.27262	.9726	2659.30301	.00454	2.95942	1531.81
60	23.69	34.47	23.35	23.41	.9769	2842.72326	.9724	2639.85460	.00456	2.86859	1532.07
80	20.60	34.71	24.40	24.75	.9758	2823.19540	.9723	2620.40815	.00357	2.76733	1524.73
100	18.97	34.70	24.82	25.26	.9754	2803.68338	.9722	2600.94343	.00317	2.67195	1520.55
125	18.05	34.74	25.08	25.43	.9750	2779.30371	.9721	2576.66008	.00293	2.64363	1518.37
150	17.49	34.75	25.22	25.89	.9748	2754.93150	.9720	2552.35954	.00280	2.57195	1517.15
175	16.96	34.74	25.34	26.12	.9745	2730.56506	.9719	2528.06102	.00270	2.50323	1515.98
200	16.43	34.74	25.42	26.31	.9744	2706.20359	.9717	2503.76691	.00263	2.43647	1515.39
250	16.37	34.72	25.47	26.47	.9741	2657.49147	.9715	2455.18553	.00260	2.30593	1515.40
300	15.72	34.68	25.58	26.91	.9738	2608.79378	.9713	2406.61538	.00250	2.17839	1514.17
350	14.72	34.60	25.74	27.30	.9734	2540.11333	.9711	2358.05643	.00236	2.05688	1511.73
400	13.44	34.53	25.95	27.74	.9730	2511.45246	.9708	2309.50869	.00217	1.94377	1508.36
450	12.10	34.45	26.16	28.18	.9726	2442.81246	.9706	2240.19211	.00197	1.84034	1504.49
500	10.78	34.36	26.34	28.59	.9722	2414.19256	.9704	2212.44668	.00181	1.74587	1500.57
550	8.73	34.19	26.55	29.05	.9718	2345.59315	.9702	2163.93239	.00160	1.66076	1493.66
600	7.54	34.11	26.66	29.40	.9714	2317.01292	.9700	2115.42922	.00149	1.58370	1489.92
650	6.24	34.10	26.83	29.81	.9710	2248.45078	.9697	2066.93715	.00132	1.51363	1485.69
700	5.90	34.11	26.88	30.11	.9708	2219.90520	.9695	2018.45615	.00127	1.44905	1485.01
750	5.27	34.11	26.96	30.42	.9705	2171.37390	.9693	1969.98622	.00119	1.38748	1483.28
800	4.71	34.14	27.05	30.75	.9702	2122.85773	.9691	1921.52733	.00110	1.33040	1481.85
850	4.34	34.19	27.12	31.06	.9699	2074.35658	.9688	1873.07946	.00103	1.27712	1481.38
900	3.54	34.17	27.19	31.37	.9696	2025.87017	.9686	1824.64261	.00095	1.22757	1478.74
950	3.59	34.26	27.26	31.67	.9693	1977.39016	.9684	1776.21674	.00089	1.18143	1479.82
1000	3.52	34.31	27.31	31.95	.9690	1928.93945	.9682	1927.80184	.00085	1.13781	1480.42
1100	3.23	34.37	27.38	32.49	.9685	1832.06104	.9678	1831.00488	.00078	1.05616	1480.94
1200	2.99	34.41	27.44	33.01	.9680	1735.23215	.9673	1734.25158	.00073	.98056	1481.65
1300	2.74	34.45	27.49	33.52	.9676	1638.45167	.9669	1637.54181	.00068	.90946	1482.48
1400	2.62	34.46	27.51	34.01	.9671	1541.71795	.9664	1540.87542	.00066	.84253	1483.48
1500	2.44	34.49	27.55	34.51	.9666	1445.03024	.9660	1444.25227	.00063	.77796	1484.52
1725	2.34	34.52	27.58	35.57	.9657	1227.64665	.9650	1227.00745	.00061	.63920	1487.93
1950	2.02	34.58	27.66	36.48	.9646	1049.0064	.9641	997925	.00053	.51139	1490.36
2175	1.84	34.60	27.68	37.73	.9636	0793.56096	.9631	0793.1611	.00051	.39484	1493.52
2400	1.74	34.62	27.71	38.77	.9627	0576.85011	.9622	0576.56651	.00048	.28361	1496.88
2625	1.67	34.63	27.72	39.40	.9617	0360.35472	.9613	0360.17890	.00047	.17582	1500.46
2850	1.61	34.64	27.73	40.41	.9608	0144.07177	.9603	0144.00180	.00047	.06997	1504.10
3000	1.54	34.64	27.74	41.44	.9602	000000	.9597	000000	.00047	.00000	1506.57

CENTER OF BODY IS 141.38KM FROM VELOCITY PROFILE

STATION NO. 4

LAT LON DA MO YR HR
32058N142010W 22 11 76 22

125R 15

DEPTH (M)	TEMP (C)	SAL	SIGMA-T (10/00)	SIGMA (C/GH)	ASTP (C/GH)	DYN HEIGHT (M)	AJ50P (C/GH)	STANDARD (M)	DELTA (C/GH)	DYN ANOM (M)	S VEL (M/SEC)
0	24.04	34.44	23.22	23.22	.9773	2901.23174	.9726	2898.20510	.00467	3.02644	1532.00
20	23.94	34.43	23.24	23.13	.9772	2881.68661	.9726	2878.75315	.00465	2.93347	1532.02
40	23.92	34.44	23.26	23.44	.9771	2842.14359	.9725	2859.30301	.00464	2.84059	1532.27
60	23.19	34.55	23.56	23.82	.9767	2842.60525	.9724	2839.85468	.00436	2.75057	1530.92
80	20.57	34.62	24.34	24.49	.9759	2823.07887	.9723	2820.40815	.00362	2.67071	1524.54
100	19.33	34.70	24.73	25.17	.9755	2803.56531	.9722	2800.96343	.00326	2.60187	1521.56
125	18.34	34.75	25.02	25.57	.9751	2779.18377	.9721	2776.66008	.00299	2.52349	1519.22
150	17.80	34.74	25.14	25.80	.9748	2754.80979	.9720	2752.35954	.00288	2.45025	1518.05
175	17.14	34.72	25.28	24.06	.9746	2730.44166	.9719	2728.06182	.00275	2.37984	1516.49
200	16.79	34.73	25.38	24.26	.9744	2706.07896	.9717	2703.76691	.00267	2.31204	1515.86
250	15.91	34.68	25.54	24.45	.9740	2667.36757	.9715	2655.18553	.00253	2.18204	1513.94
300	14.60	34.59	25.76	27.10	.9736	2608.47603	.9713	2606.61538	.00233	2.06066	1510.52
350	13.07	34.48	26.00	27.56	.9732	2540.00612	.9711	2558.05643	.00211	1.94949	1506.18
400	11.40	34.36	26.22	28.02	.9727	2511.35818	.9708	2509.50869	.00190	1.84950	1501.12
450	10.07	34.24	26.38	28.41	.9724	2442.73037	.9706	2440.97211	.00175	1.75827	1496.86
500	8.81	34.20	26.54	28.82	.9720	2414.12129	.9704	2412.44668	.00159	1.67461	1493.15
550	7.17	34.04	26.66	29.18	.9716	2345.53035	.9702	2363.93239	.00147	1.59796	1487.48
600	6.32	34.09	26.81	29.57	.9713	2316.95728	.9700	2315.42922	.00132	1.52806	1485.01
650	5.75	34.12	26.91	29.91	.9710	2248.40129	.9697	2266.93715	.00123	1.46415	1483.59
700	5.07	34.12	26.99	30.23	.9707	2219.86072	.9695	2218.45615	.00115	1.40457	1481.65
750	4.65	34.15	27.06	30.53	.9704	2171.33495	.9693	2169.90622	.00108	1.34874	1480.79
800	4.34	34.20	27.14	30.84	.9701	2122.82369	.9691	2121.52733	.00101	1.29636	1480.40
850	4.12	34.22	27.18	31.12	.9698	2 74.32610	.9688	2 73.07946	.00098	1.24664	1480.33
900	3.88	34.27	27.24	31.41	.9695	2 25.84195	.9686	2 24.64261	.00092	1.19935	1480.23
950	3.60	34.31	27.30	31.71	.9693	1977.37177	.9684	1976.21674	.00086	1.15504	1479.93
1000	3.44	34.33	27.33	31.97	.9690	1928.91470	.9682	1927.80184	.00083	1.11286	1480.20
1100	3.21	34.37	27.38	32.49	.9685	1832.03717	.9678	1831.00488	.00078	1.03230	1480.94
1200	2.94	34.42	27.45	33.02	.9680	1735.20893	.9673	1734.25150	.00072	.95736	1481.45
1300	2.73	34.46	27.50	33.54	.9676	1638.42976	.9669	1637.54181	.00067	.88796	1482.28
1400	2.54	34.48	27.53	34.03	.9671	1541.69778	.9664	1540.87542	.00064	.82236	1483.25
1500	2.41	34.50	27.56	34.52	.9666	1445.01180	.9660	1444.25227	.00061	.75953	1484.32
1725	2.19	34.55	27.62	35.41	.9656	1227.63442	.9650	1227.00745	.00056	.62697	1487.24
1950	1.95	34.59	27.67	34.49	.9646	1 10.48492	.9641	1 9.97925	.00051	.50567	1490.07
2175	1.82	34.60	27.69	37.73	.9636	0793.55756	.9631	0793.16611	.00050	.39145	1493.35
2400	1.71	34.62	27.71	38.78	.9627	0576.84771	.9622	0576.56651	.00048	.28121	1496.75
2625	1.64	34.63	27.72	39.80	.9617	0360.35320	.9613	0360.17890	.00047	.17430	1500.33
2850	1.58	34.64	27.74	40.82	.9608	0144.07115	.9603	0144.00180	.00046	.06935	1503.97
3000	1.55	34.64	27.74	41.89	.9602	0 00000	.9597	0 00000	.00046	.00000	1506.44

CENTER OF EDDY IS 101.02KH FROM VELOCITY PROFILE

STATION NO. 5

LAT LON DA MO YR HR
33D 0M142045H 23 11 76 3

16

1300

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN HEIGHT (M)	ADJUP (CC/GM)	STANDARD (M)	DELTA (CC/GM)	UYN ANOM (M)	S VEL (M/SEC)
0	23.84	34.03	22.98	22.90	.9775	2901.00436	.9726	2898.20510	.00490	2.80327	1530.95
20	23.72	34.03	23.01	23.10	.9774	2901.45876	.9726	2898.20510	.00490	2.80327	1530.95
40	24.11	34.30	23.10	23.27	.9773	2841.91199	.9725	2859.30301	.00479	2.60897	1532.57
60	23.99	34.24	23.09	23.15	.9772	2842.36763	.9724	2839.85468	.00481	2.51294	1532.54
80	21.37	34.37	23.93	24.28	.9763	2822.83290	.9723	2820.40815	.00401	2.42473	1526.38
100	19.00	34.49	24.65	25.09	.9755	2803.31475	.9722	2800.96343	.00333	2.35130	1520.38
125	17.24	34.52	25.10	25.46	.9750	2778.93339	.9721	2776.66008	.00291	2.27329	1515.79
150	16.24	34.56	25.37	24.83	.9746	2754.56322	.9720	2752.35954	.00266	2.20346	1513.23
175	15.01	34.56	25.65	24.43	.9743	2710.20223	.9719	2728.04182	.00240	2.14039	1509.74
200	13.89	34.52	25.86	24.75	.9739	2705.84976	.9717	2703.76891	.00221	2.08282	1506.49
250	12.01	34.39	26.13	27.26	.9735	2657.16448	.9715	2655.18553	.00195	1.97893	1500.82
300	10.26	34.27	26.36	27.72	.9730	2608.50210	.9713	2606.61538	.00174	1.88670	1495.27
350	9.23	34.24	26.51	28.10	.9727	2559.85962	.9711	2558.05643	.00160	1.80316	1492.31
400	8.04	34.13	26.61	28.43	.9724	2511.23407	.9708	2509.50869	.00151	1.72536	1488.50
450	6.84	34.10	26.75	28.81	.9720	2462.62545	.9706	2460.97211	.00137	1.65332	1484.78
500	5.03	33.91	26.83	29.15	.9717	2414.03369	.9704	2412.44668	.00128	1.58699	1477.90
550	4.09	33.86	26.89	29.45	.9714	2365.45701	.9702	2363.93239	.00121	1.52460	1474.75
600	4.90	34.12	27.01	29.79	.9711	2316.89548	.9700	2315.42922	.00112	1.46624	1479.30
650	4.43	34.17	27.08	30.09	.9708	2268.34903	.9697	2266.93715	.00108	1.41147	1479.08
700	3.94	34.15	27.14	30.39	.9705	2219.81679	.9695	2218.45615	.00099	1.36042	1474.99
750	3.93	34.20	27.18	30.66	.9702	2171.29797	.9693	2169.98622	.00096	1.31174	1477.85
800	3.91	34.26	27.23	30.94	.9700	2122.79212	.9691	2121.52733	.00092	1.26478	1478.68
850	3.76	34.29	27.27	31.22	.9697	2074.29927	.9688	2073.07746	.00088	1.21979	1478.88
900	3.64	34.31	27.30	31.40	.9695	2025.81093	.9686	2024.64261	.00086	1.17631	1479.27
950	3.44	34.35	27.35	31.76	.9692	1977.35138	.9684	1976.21674	.00081	1.13463	1479.31
1000	3.34	34.35	27.36	32.00	.9690	1928.89621	.9682	1927.80184	.00080	1.09436	1479.72
1100	3.05	34.40	27.42	32.54	.9685	1832.02223	.9678	1831.00988	.00074	1.01735	1480.22
1200	2.79	34.44	27.48	33.06	.9680	1735.19770	.9673	1734.25158	.00069	.94611	1480.83
1300	2.64	34.47	27.52	33.54	.9675	1638.42099	.9669	1637.54181	.00065	.87918	1481.91
1400	2.49	34.48	27.54	34.04	.9671	1541.69028	.9664	1540.87542	.00063	.81445	1482.95
1500	2.34	34.51	27.57	34.53	.9666	1445.00523	.9660	1444.25227	.00060	.75296	1484.20
1725	2.15	34.56	27.63	35.42	.9656	1227.63042	.9650	1227.00745	.00055	.62297	1487.08
1950	1.96	34.59	27.67	36.49	.9646	110.48227	.9641	9.97925	.00051	.50302	1490.07
2175	1.79	34.61	27.70	37.75	.9636	0793.55615	.9631	0793.16911	.00049	.39004	1493.24
2400	1.70	34.62	27.71	38.78	.9627	0576.84747	.9622	0576.56651	.00048	.28117	1496.71
2625	1.64	34.63	27.72	39.40	.9617	0360.35330	.9613	0360.17890	.00047	.17440	1500.34
2850	1.54	34.64	27.74	40.42	.9608	0144.07126	.9603	0144.00180	.00046	.06946	1503.98
3000	1.54	34.64	27.74	41.49	.9602	0	.9597	0	.00000	.00000	1506.49

CENTER OF EDNY JS 60.41KM FROM VELOCITY PROFILE

STATION NO. 6

LAT LON DA MO YR HR
330 0M143011M 23 11 26 7

17

1300

DEPTH (M)	TEMP (C)	SAL (G/100)	SIGMA-T	SIGMA	ASTP (CC/GH)	DYN HEIGHT (M)	A3SUP (CC/GH)	STANDARD (M)	DELTA (CC/GH)	OTN ANOM (M)	S VEL (M/SEC)
0	23.89	34.11	23.02	23.02	.9775	2900.03209	.9726	2898.20510	.00485	2.62697	1531.16
20	23.71	34.13	23.09	23.14	.9773	2801.28346	.9726	2878.75315	.00480	2.63049	1531.07
40	23.44	34.07	23.11	23.29	.9772	2841.73774	.9725	2859.30301	.00478	2.43471	1530.77
60	22.95	34.17	23.34	23.40	.9769	2842.19508	.9724	2839.85468	.00457	2.34117	1529.89
80	19.01	34.33	24.53	24.88	.9750	2822.66920	.9723	2820.40815	.00344	2.26102	1519.90
100	16.94	34.52	25.17	25.42	.9750	2803.16172	.9722	2800.96343	.00263	2.19825	1514.48
125	15.13	34.54	25.41	26.16	.9745	2778.79245	.9721	2776.66008	.00243	2.13254	1509.28
150	13.45	34.46	25.82	24.49	.9742	2754.43395	.9720	2752.35954	.00223	2.07438	1505.47
175	12.94	34.41	25.96	24.75	.9739	2730.08218	.9719	2728.06182	.00210	2.02033	1502.86
200	11.74	34.32	26.13	27.03	.9737	2705.73679	.9717	2703.76691	.00194	1.96985	1499.01
250	9.94	34.25	26.39	27.63	.9732	2657.06449	.9715	2655.18553	.00169	1.87893	1493.37
300	8.84	34.17	26.51	27.88	.9729	2608.41231	.9713	2606.61538	.00159	1.79690	1490.02
350	7.27	34.05	26.45	28.26	.9725	2559.77748	.9711	2558.05643	.00145	1.72102	1484.60
400	6.49	34.05	26.73	28.57	.9722	2511.15911	.9708	2509.50869	.00138	1.65039	1483.14
450	5.94	34.01	26.80	28.88	.9719	2462.55628	.9706	2460.97211	.00131	1.58315	1480.91
500	4.54	33.92	26.89	29.21	.9716	2413.96655	.9704	2412.44668	.00122	1.51944	1475.97
550	4.54	34.05	27.00	29.55	.9713	2345.33249	.9702	2343.93239	.00112	1.46128	1474.09
600	4.54	34.13	27.06	29.84	.9710	2316.03556	.9700	2315.42922	.00107	1.40632	1477.99
650	4.34	34.17	27.11	30.13	.9708	2248.29110	.9697	2246.93715	.00102	1.35394	1477.87
700	4.14	34.22	27.17	30.42	.9705	2219.76044	.9695	2218.45615	.00097	1.30427	1477.93
750	3.94	34.26	27.23	30.71	.9702	2171.24344	.9693	2169.98622	.00092	1.25720	1477.98
800	3.81	34.28	27.26	30.97	.9700	2122.73933	.9691	2121.52733	.00089	1.21198	1478.29
850	3.54	34.32	27.31	31.26	.9697	2074.24818	.9688	2073.07946	.00084	1.16869	1478.20
900	3.34	34.35	27.35	31.54	.9694	2025.77035	.9686	2024.64261	.00080	1.12772	1478.22
950	3.22	34.38	27.39	31.81	.9692	1977.30544	.9684	1976.21674	.00076	1.08869	1478.42
1000	3.05	34.41	27.43	32.08	.9689	1928.85336	.9682	1927.80184	.00072	1.05151	1478.56
1100	2.85	34.43	27.47	32.58	.9684	1831.98545	.9678	1831.00488	.00069	.98054	1479.41
1200	2.70	34.46	27.50	33.08	.9680	1735.16438	.9673	1734.25158	.00066	.91279	1480.48
1300	2.54	34.48	27.53	33.57	.9675	1630.38973	.9669	1637.54181	.00064	.84791	1481.58
1400	2.42	34.5	27.56	34.06	.9671	1541.66096	.9664	1540.87542	.00061	.78554	1482.68
1500	2.29	34.5	27.59	34.56	.9666	1444.97830	.9660	1444.25227	.00058	.72602	1483.84
1725	2.03	34.56	27.65	35.46	.9665	1227.60952	.9650	1227.00745	.00052	.60206	1486.59
1950	1.87	34.61	27.69	36.72	.9664	1044.46731	.9641	997925	.00049	.48805	1489.75
2175	1.74	34.62	27.71	37.76	.9666	793.54542	.9631	793.16411	.00048	.37930	1493.04
2400	1.65	34.63	27.72	38.79	.9627	576.83998	.9622	576.56651	.00046	.27347	1496.51
2625	1.59	34.64	27.74	39.41	.9617	330.34069	.9613	330.17090	.00046	.14779	1500.13
2850	1.55	34.65	27.75	40.43	.9608	144.06946	.9603	144.00100	.00045	.06746	1503.04
3000	1.52	34.66	27.75	41.50	.9602	0	.9597	0	.00000	.00000	1506.33

CENTER OF EDDY IS 20.19KM FROM VELOCITY PROFILE

STATION NO. 7

LAT LOW DA MO YR HR
330 2414303AM 23 11 76 11

1302

18

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA (CC/GM)	ASTP (CC/GM)	DYN HEIGHT (M)	A350P (CC/GM)	STANDARDU (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0	24.27	34.28	23.04	23.04	.9775	2901.01476	.9726	2898.20510	.00484	2.80946	1532.28
20	24.05	34.28	23.10	23.19	.9773	2881.46660	.9726	2878.75315	.00478	2.71346	1532.07
40	23.94	34.26	23.11	23.29	.9772	2861.92084	.9725	2859.30301	.00478	2.61783	1532.16
60	23.64	34.23	23.19	23.45	.9771	2842.37753	.9724	2839.85468	.00472	2.52285	1531.67
80	21.05	34.53	24.14	24.49	.9761	2822.84570	.9723	2820.40815	.00381	2.43754	1525.72
100	19.14	34.51	24.63	25.07	.9755	2803.32929	.9722	2800.96343	.00336	2.36585	1520.86
125	17.44	34.57	25.10	25.45	.9750	2776.94756	.9721	2776.66008	.00291	2.28747	1516.38
150	16.03	34.58	25.44	26.10	.9746	2754.57814	.9720	2752.35954	.00260	2.21840	1512.55
175	15.00	34.58	25.67	26.45	.9742	2730.21817	.9719	2728.06182	.00238	2.15635	1509.73
200	14.13	34.57	25.85	26.74	.9740	2705.86576	.9717	2703.76691	.00222	2.09884	1507.33
250	12.40	34.40	26.07	27.19	.9735	2657.17854	.9715	2655.18553	.00202	1.99301	1502.17
300	10.73	34.28	26.28	27.44	.9731	2608.51266	.9713	2606.61538	.00181	1.89728	1497.01
350	9.34	34.24	26.49	28.08	.9727	2559.86707	.9711	2558.05643	.00162	1.81143	1492.72
400	8.32	34.20	26.62	28.44	.9723	2511.24211	.9708	2509.50869	.00150	1.73342	1489.66
450	6.64	34.04	26.73	28.80	.9720	2462.63338	.9706	2460.97211	.00139	1.66127	1483.83
500	5.40	33.99	26.85	29.16	.9717	2414.04143	.9704	2412.44668	.00127	1.59494	1479.52
550	5.30	34.02	26.89	29.43	.9714	2365.46474	.9702	2363.93239	.00124	1.53234	1479.98
600	4.69	34.01	26.95	29.73	.9711	2316.90123	.9700	2315.42922	.00118	1.47200	1478.28
650	4.94	34.14	27.02	30.02	.9709	2268.35175	.9695	2266.93715	.00112	1.41460	1480.48
700	4.44	34.16	27.09	30.34	.9706	2219.81644	.9695	2218.45615	.00104	1.36048	1479.10
750	4.25	34.22	27.16	30.44	.9703	2171.29601	.9693	2169.98622	.00098	1.30979	1479.22
800	3.94	34.24	27.23	30.94	.9700	2122.78952	.9691	2121.52733	.00092	1.26219	1478.80
850	3.74	34.28	27.26	31.21	.9697	2074.29637	.9688	2073.07946	.00089	1.21690	1478.90
900	3.57	34.32	27.31	31.49	.9695	2025.81620	.9686	2024.64261	.00084	1.17359	1478.99
950	3.45	34.35	27.35	31.76	.9692	1977.34901	.9684	1976.21674	.00081	1.13227	1479.35
1000	3.35	34.35	27.36	32.00	.9690	1928.89376	.9682	1927.80184	.00080	1.09194	1479.76
1100	3.05	34.40	27.42	32.54	.9685	1832.01975	.9678	1831.00408	.00074	1.01487	1480.22
1200	2.83	34.44	27.48	33.05	.9680	1735.19500	.9673	1734.25158	.00069	.94341	1481.01
1300	2.63	34.46	27.51	33.54	.9675	1638.41753	.9669	1637.54181	.00066	.87571	1482.02
1400	2.50	34.48	27.54	34.04	.9671	1541.60622	.9664	1540.87542	.00063	.81040	1483.00
1500	2.41	34.50	27.56	34.52	.9666	1445.00058	.9660	1444.25227	.00061	.74831	1484.32
1725	2.15	34.55	27.62	35.82	.9656	1227.62373	.9650	1227.00745	.00056	.61628	1487.06
1950	1.92	34.60	27.68	36.71	.9646	1047.47490	.9641	1047.07925	.00050	.49673	1489.95
2175	1.77	34.61	27.70	37.75	.9634	0793.65136	.9631	0793.16411	.00049	.38525	1493.15
2400	1.64	34.63	27.72	38.79	.9627	0576.84476	.9622	0576.56651	.00047	.27776	1496.64
2625	1.62	34.63	27.73	39.80	.9617	0360.35129	.9613	0360.17890	.00047	.17239	1500.25
2850	1.55	34.64	27.74	40.82	.9608	0144.07000	.9603	0144.00160	.00046	.06820	1503.84
3000	1.52	34.66	27.75	41.50	.9602	00000	.9597	00000	.00045	.00000	1506.33

CENTER OF EDDY IS 19.50KM FROM VELOCITY PROFILE

STATION NO. 9

LAT LON DA MO YR HR
330 0814402AM 23 11.76 22

20

1300

DEPTH (M)	TEMP (C)	SAL	SIGMA-T	SIGMA	ASTP (CC/GH)	DYN WEIGHT (M)	A350P (CC/GH)	STANDARD (M)	DELTA (CC/GH)	DYN ANOM (M)	S VEL (M/SEC)
0	24.94	34.60	23.07	21.07	.9774	2901.45621	.9726	2090.20510	.00480	J.25112	1534.20
20	24.84	34.61	23.10	21.19	.9773	2081.90634	.9726	2078.75315	.00478	J.15526	1534.44
40	24.89	34.61	23.10	21.27	.9773	2042.36250	.9725	2059.30301	.00479	J.05951	1534.79
60	21.53	34.59	24.06	24.32	.9763	2842.82737	.9724	2039.45468	.00389	2.97271	1526.73
80	20.01	34.67	24.53	24.88	.9757	2823.30753	.9723	2020.40815	.00344	2.49940	1523.08
100	18.91	34.66	24.80	25.24	.9754	2803.79649	.9722	2000.96343	.00319	2.83307	1520.33
125	18.02	34.74	25.09	25.44	.9750	2779.41673	.9721	2776.64008	.00293	2.75666	1518.28
150	17.51	34.74	25.21	25.87	.9748	2755.04440	.9720	2752.35954	.00282	2.60487	1517.26
175	17.07	34.72	25.30	24.07	.9746	2730.67726	.9719	2728.06182	.00274	2.61544	1516.28
200	16.80	34.73	25.37	24.26	.9744	2706.31474	.9717	2703.76691	.00267	2.54782	1515.89
250	16.44	34.72	25.45	24.56	.9741	2667.60108	.9715	2655.18553	.00262	2.41555	1515.61
300	15.80	34.67	25.56	24.89	.9738	2608.90237	.9713	2606.61530	.00253	2.28700	1514.40
350	15.01	34.61	25.69	27.24	.9735	2540.21995	.9711	2558.05643	.00241	2.16352	1512.67
400	13.84	34.52	25.86	27.45	.9731	2511.55553	.9708	2509.50869	.00225	2.04685	1509.67
450	12.92	34.47	26.02	28.03	.9727	2442.90975	.9706	2440.97211	.00211	1.93745	1507.31
500	11.57	34.35	26.19	28.44	.9723	2414.28275	.9704	2412.44660	.00195	1.83607	1503.17
550	9.92	34.22	26.38	28.86	.9719	2345.67548	.9702	2343.93239	.00177	1.74309	1498.11
600	8.50	34.16	26.56	29.29	.9715	2317.08823	.9700	2315.42922	.00159	1.65902	1493.58
650	7.63	34.15	26.68	29.45	.9712	2248.51952	.9697	2246.93715	.00147	1.58237	1491.06
700	6.49	34.12	26.79	30.00	.9709	2219.96751	.9695	2218.45615	.00137	1.51136	1488.18
750	5.17	34.03	26.91	30.37	.9705	2171.43252	.9693	2169.98622	.00124	1.44630	1482.77
800	4.64	34.03	26.97	30.47	.9702	2122.91331	.9691	2121.52733	.00118	1.38598	1481.49
850	4.75	34.16	27.06	30.99	.9699	274.40859	.9688	273.07946	.00110	1.32913	1482.87
900	4.44	34.19	27.12	31.28	.9697	225.91827	.9686	224.64261	.00104	1.27547	1482.46
950	4.17	34.23	27.18	31.68	.9694	1977.44178	.9684	1976.21674	.00098	1.22505	1482.22
1000	3.92	34.27	27.24	31.87	.9691	1928.97910	.9682	1927.80184	.00093	1.17726	1482.06
1100	3.64	34.32	27.32	32.42	.9686	1832.09349	.9678	1831.00488	.00084	1.08861	1481.85
1200	3.13	34.37	27.39	32.96	.9681	1735.25914	.9673	1734.25158	.00078	1.00756	1482.19
1300	2.94	34.41	27.44	33.47	.9676	1638.47399	.9669	1637.54181	.00073	.93218	1483.11
1400	2.70	34.44	27.49	33.98	.9671	1541.73688	.9664	1540.87542	.00069	.86126	1483.80
1500	2.54	34.47	27.52	34.48	.9667	1445.04634	.9660	1444.25227	.00064	.79407	1485.01
1725	2.27	34.53	27.60	35.59	.9656	1227.66157	.9650	1227.00745	.00059	.65412	1487.55
1950	2.04	34.56	27.64	36.86	.9646	110.50540	.9641	109.97925	.00055	.52415	1490.50
2175	1.90	34.58	27.66	37.71	.9637	0793.57133	.9631	0793.16611	.00052	.40522	1493.67
2400	1.77	34.60	27.69	38.75	.9627	0576.85623	.9622	0576.56651	.00050	.28973	1496.98
2625	1.64	34.62	27.71	39.79	.9617	0340.35782	.9613	0340.17890	.00048	.17892	1500.49
2850	1.42	34.63	27.73	40.40	.9608	0144.07295	.9603	0144.00180	.00047	.07115	1504.13
3000	1.54	34.63	27.73	41.47	.9602	0	.9597	0	.00000	.00000	1506.55

CENTER OF EDDY IS 96.16KM FROM VELOCITY PROFILE

STATION NO: 0

LAT LON DA MO YR HZ
330 1414305AM 20 11 76 17

1304

13

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	OWN HEIGHT (M)	A350P (CC/GM)	STANDARD (M)	DELTA (CC/GM)	CYN ANOM (M)	S VEL (M/SEC)
0	24.11	34.32	23.12	23.12	.9774	2901.30225	.9726	2090.20510	.00476	3.00915	1531.53
20	24.11	34.32	23.12	23.20	.9773	2931.75596	.9726	2078.75315	.00477	3.00281	1532.26
40	24.13	34.33	23.12	23.29	.9772	2842.21033	.9725	2059.30301	.00478	2.90733	1532.65
60	23.54	34.40	23.24	23.40	.9767	2842.66855	.9724	2037.05469	.00457	2.81307	1531.52
80	21.10	34.62	24.20	24.55	.9750	2823.13875	.9723	2020.40615	.00376	2.73059	1525.96
100	19.65	34.71	24.65	25.09	.9753	2803.62311	.9722	2000.96343	.00333	2.65967	1522.46
120	18.50	34.76	24.96	25.51	.9751	2772.24004	.9721	1976.66008	.00304	2.57976	1519.92
150	17.77	34.76	25.13	25.82	.9748	2754.86571	.9720	1952.35954	.00286	2.50616	1517.99
175	17.14	34.75	25.30	26.08	.9746	2730.49304	.9719	1928.06102	.00273	2.43623	1516.59
200	16.74	34.75	25.40	26.28	.9744	2706.13604	.9717	1903.76691	.00265	2.36892	1515.00
250	15.93	34.69	25.54	26.45	.9740	2657.42504	.9715	1855.10563	.00262	2.23502	1514.01
300	15.02	34.63	25.70	27.03	.9737	2608.73212	.9713	1806.61530	.00239	2.11673	1511.91
350	13.72	34.54	25.91	27.47	.9733	2540.05859	.9711	1755.05643	.00220	2.00214	1509.41
400	12.24	34.43	26.12	27.91	.9728	2511.40580	.9708	1709.50869	.00200	1.89710	1504.15
450	10.80	34.32	26.30	28.33	.9724	2462.77338	.9706	1660.97211	.00183	1.80126	1499.77
500	9.54	34.24	26.47	28.74	.9721	2414.16053	.9704	1612.44668	.00167	1.71384	1495.95
550	7.94	34.16	26.64	29.15	.9717	2365.56704	.9702	1563.93239	.00150	1.63464	1490.70
600	6.77	34.10	26.76	29.52	.9713	2316.99191	.9700	1515.42222	.00138	1.56226	1484.81
700	5.50	34.09	26.95	30.19	.9710	2266.43242	.9697	1466.93114	.00122	1.47027	1474.27
750	4.24	34.05	27.03	30.90	.9707	2217.88874	.9695	1418.45615	.00119	1.43259	1468.14
800	3.44	34.17	27.10	30.80	.9704	2171.36132	.9693	1369.98622	.00111	1.37510	1479.03
850	3.36	34.18	27.16	31.11	.9698	2122.84039	.9691	1321.52733	.00105	1.32106	1480.24
900	3.70	34.23	27.21	31.37	.9696	2074.34989	.9688	1273.07746	.00099	1.27012	1476.57
950	3.79	34.28	27.24	31.46	.9693	2025.06453	.9686	1224.64261	.00094	1.22192	1480.62
1000	3.59	34.30	27.29	31.83	.9691	1977.39269	.9684	1176.21674	.00090	1.17504	1480.39
1100	3.37	34.36	27.37	32.47	.9685	1928.93347	.9682	1127.80104	.00087	1.13123	1480.71
1200	3.52	34.40	27.43	33.00	.9681	1882.03320	.9678	1081.00488	.00080	1.04932	1461.31
1300	2.77	34.48	27.49	33.52	.9676	1835.22286	.9673	1034.25158	.00074	.97130	1451.73
1400	2.44	34.46	27.51	34.00	.9676	1788.44160	.9669	987.54101	.00048	.90000	1462.52
1500	2.58	34.49	27.54	34.30	.9667	1741.70786	.9664	940.87542	.00047	.83244	1453.61
1750	2.21	34.53	27.62	35.61	.9656	1645.01962	.9650	844.25272	.00043	.76735	1484.70
1900	2.02	34.52	27.68	36.46	.9646	1548.63973	.9641	747.97925	.00053	.68220	1467.32
2150	1.88	34.60	27.69	37.73	.9636	1452.55879	.9631	651.07931	.00050	.58894	1420.33
2300	1.70	34.62	27.71	38.77	.9627	1356.84851	.9622	556.56651	.00043	.52201	1492.14
2450	1.63	34.63	27.72	39.20	.9617	1261.35370	.9613	461.07070	.00047	.46201	1426.60
2550	1.50	34.64	27.74	40.82	.9604	1166.07136	.9603	366.07136	.00046	.40941	1500.37
3000	1.52	34.64	27.74	41.49	.9602	0	.9597	0	.00046	.00956	1504.01
										.00000	1506.48

CENTER OF EGGY IS 56.10KM FROM VELOCITY PROFILE

STATION NO. 10

LAT LON DA MO YR HR
330 1M14053M 24 11 74 3

1301 21

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN (M)	HEIGHT (M)	A350P (CC/GM)	STANDARD (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0	24.5A	34.64	23.22	23.22	.9773	2901.47740		.9726	2898.20510	.00467	3.27252	1533.43
20	24.60	34.64	23.21	23.30	.9772	2881.93219		.9726	2878.75315	.00468	3.17906	1533.80
40	24.60	34.64	23.21	23.38	.9771	2862.38837		.9725	2859.30301	.00469	3.08538	1534.13
60	24.60	34.63	23.20	23.46	.9771	2842.44614		.9724	2839.85468	.00470	2.99148	1534.45
80	19.83	34.72	24.61	24.96	.9754	2823.31895		.9723	2820.40815	.00336	2.91082	1522.64
100	18.33	34.74	25.01	25.45	.9752	2803.81070		.9722	2800.96343	.00299	2.81728	1518.77
125	17.61	34.75	25.19	25.75	.9749	2779.43469		.9721	2776.64008	.00282	2.77443	1517.10
150	17.14	34.74	25.30	25.96	.9747	2755.06471		.9720	2752.35954	.00273	2.70519	1516.16
175	16.91	34.73	25.35	26.12	.9745	2730.69918		.9719	2728.06182	.00269	2.63737	1515.81
200	16.6A	34.73	25.40	26.29	.9744	2706.33754		.9717	2703.76691	.00265	2.55704	1515.53
220	16.40	34.71	26.48	26.46	.9741	2657.62441		.9715	2655.18553	.00261	2.43909	1515.40
300	15.79	34.67	25.56	26.89	.9738	2608.92600		.9713	2606.61538	.00252	2.31043	1514.37
350	14.99	34.61	25.69	27.25	.9735	2580.24374		.9711	2558.05643	.00241	2.18731	1512.61
400	13.97	34.54	25.86	27.64	.9731	2511.57923		.9708	2509.50869	.00226	2.07055	1510.06
450	12.87	34.46	26.02	28.03	.9727	2482.93332		.9706	2480.97211	.00211	1.96121	1507.12
500	11.50	34.36	26.21	28.45	.9723	2414.30865		.9704	2412.44668	.00194	1.85997	1503.11
550	10.22	34.27	26.36	28.85	.9720	2365.69928		.9702	2363.43239	.00179	1.76690	1499.26
600	9.04	34.24	26.54	29.26	.9716	2317.11098		.9700	2315.42922	.00162	1.68177	1496.71
650	7.85	34.12	26.66	29.62	.9712	2268.54094		.9697	2266.93715	.00150	1.60380	1491.10
700	6.8A	34.09	26.74	29.95	.9709	2219.90708		.9695	2218.45615	.00142	1.53093	1488.89
750	6.41	34.17	26.87	30.31	.9706	2171.44932		.9693	2169.98622	.00130	1.46311	1487.96
800	5.77	34.19	26.96	30.64	.9703	2122.92796		.9691	2121.52733	.00120	1.40044	1486.25
850	5.20	34.22	27.06	30.97	.9700	2074.42231		.9688	2073.07946	.00111	1.34286	1484.80
900	4.45	34.15	27.09	31.25	.9697	2025.93090		.9686	2024.64261	.00107	1.28831	1482.45
950	4.2A	34.22	27.16	31.55	.9694	1977.45312		.9684	1976.21674	.00100	1.23640	1482.66
1000	3.9A	34.25	27.21	31.84	.9691	1928.98937		.9682	1927.80184	.00095	1.18754	1482.28
1100	3.51	34.32	27.32	32.42	.9686	1832.10238		.9678	1831.00488	.00085	1.09751	1482.06
1200	3.22	34.37	27.38	32.95	.9681	1735.26722		.9673	1734.25158	.00079	1.01564	1482.57
1300	2.99	34.40	27.43	33.46	.9676	1638.48049		.9669	1637.54181	.00074	.93909	1483.31
1400	2.7A	34.44	27.48	33.97	.9671	1541.74258		.9664	1540.87542	.00069	.86716	1484.06
1500	2.57	34.47	27.52	34.48	.9667	1445.05195		.9660	1444.25227	.00066	.79968	1484.96
1725	2.29	34.52	27.59	35.58	.9656	1257.66621		.9650	1227.00745	.00060	.65877	1487.62
1950	2.0A	34.56	27.64	36.46	.9646	1050.895		.9641	1049.97925	.00055	.52970	1490.50
2175	1.70	34.58	27.66	37.71	.9637	843.07449		.9631	843.16611	.00052	.40878	1493.67
2400	1.40	34.60	27.69	38.75	.9627	636.45964		.9622	636.56651	.00050	.29314	1497.03
2625	1.69	34.61	27.70	39.78	.9617	430.36013		.9613	430.17890	.00049	.18123	1500.52
2850	1.62	34.62	27.72	40.80	.9608	224.07349		.9603	224.00180	.00048	.07149	1504.11
3000	1.5A	34.63	27.73	41.47	.9602	0		.9597	0	.00000	.00000	1506.55

CENTER OF EDDY IS 139.022KM FROM VELOCITY PROFILE

A P P E N D I X B

STD DATA FROM THE KUROSHIO

(24-26 October 1976)

AND CALCULATED PARAMETERS

STATION NO. 11

LAT LUN - DA MO-YR MK
36052M1460 4M 26 11 76-23

1652

14

DEPTH (M)	TEMP (C)	SAL	SIGMA-T (KG/CM ³)	SIGMA (KG/CM ³)	ASTP (KG/CM ³)	DTN	MLTUM (M)	ABSP (KG/CM ³)	STANUAKV (M)	ULLIA (KG/CM ³)	DTN ANOM (M)	S VEL (M/SEC)
0	18.90	34.04	24.33	24.33	.9762	2419.91340	.9726	2417.91340	.9726	.00000	2.00446	1517.93
20	18.90	34.05	24.34	24.34	.9762	2400.38942	.9726	2398.38942	.9726	.00000	2.00446	1518.27
40	18.86	34.05	24.35	24.35	.9761	2380.86729	.9725	2378.86729	.9725	.00000	1.93247	1518.49
60	15.02	34.46	25.57	25.84	.9748	2341.35056	.9724	2339.35056	.9724	.00244	1.93247	1507.77
80	14.45	34.53	25.75	26.10	.9748	2341.35056	.9724	2339.35056	.9724	.00244	1.93247	1507.77
100	12.70	34.39	26.00	26.44	.9742	2322.17491	.9722	2320.17491	.9722	.00204	1.78121	1500.73
125	11.30	34.29	26.19	26.75	.9739	2290.02470	.9721	2288.02470	.9721	.00187	1.78121	1496.10
150	9.44	34.12	26.37	27.04	.9737	2233.67468	.9720	2231.67468	.9720	.00169	1.68033	1489.80
175	8.41	34.05	26.49	27.29	.9734	2249.34100	.9719	2247.34100	.9719	.00158	1.64737	1486.12
200	7.93	34.03	26.56	27.48	.9733	2275.00731	.9717	2273.00731	.9717	.00152	1.60854	1484.69
250	6.50	34.00	26.72	27.87	.9729	2176.35378	.9713	2174.35378	.9713	.00137	1.53645	1479.86
300	5.47	33.96	26.82	28.21	.9726	2127.71759	.9713	2125.71759	.9713	.00127	1.47041	1476.48
350	4.80	33.96	26.90	28.52	.9723	2099.675	.9711	2097.675	.9711	.00120	1.40852	1474.55
400	4.52	34.02	26.97	28.83	.9720	2099.675	.9708	2097.675	.9708	.00113	1.35023	1473.29
450	4.42	34.09	27.04	29.13	.9717	1981.69910	.9706	1980.69910	.9706	.00107	1.29521	1474.79
500	4.25	34.14	27.10	29.42	.9714	1933.32141	.9704	1932.32141	.9704	.00102	1.24294	1474.98
550	4.02	34.17	27.15	29.71	.9712	1884.75723	.9702	1883.75723	.9702	.00098	1.19304	1474.88
600	3.85	34.22	27.20	30.00	.9709	1836.20655	.9700	1835.20655	.9700	.00092	1.14553	1475.06
650	3.65	34.26	27.26	30.28	.9706	1787.66445	.9697	1786.66445	.9697	.00088	1.10050	1475.10
700	3.51	34.21	27.23	30.49	.9704	1739.14397	.9695	1738.14397	.9695	.00080	1.05602	1475.26
750	3.35	34.29	27.31	30.80	.9701	1690.63074	.9693	1689.63074	.9693	.00083	1.01271	1475.52
800	3.10	34.30	27.34	31.07	.9699	1642.13114	.9691	1641.13114	.9691	.00080	.97201	1475.30
850	3.05	34.35	27.38	31.35	.9696	1593.64432	.9688	1592.64432	.9688	.00076	.93305	1475.99
900	3.02	34.38	27.41	31.60	.9694	1545.17004	.9686	1544.17004	.9686	.00074	.89562	1476.73
950	2.91	34.40	27.44	31.86	.9691	1496.70790	.9684	1495.70790	.9684	.00071	.85935	1477.12
1000	2.80	34.41	27.45	32.11	.9689	1448.25772	.9682	1447.25772	.9682	.00070	.82406	1477.50
1100	2.60	34.44	27.50	32.62	.9684	1351.37290	.9670	1350.37290	.9670	.00066	.75621	1478.35
1200	2.49	34.47	27.53	33.12	.9679	1254.57509	.9673	1253.57509	.9673	.00063	.69170	1479.59
1300	2.38	34.49	27.55	33.60	.9675	1157.80333	.9669	1157.80333	.9669	.00061	.62971	1480.82
1400	2.28	34.51	27.58	34.09	.9670	1061.07708	.9664	1061.07708	.9664	.00059	.56985	1482.09
1500	2.19	34.53	27.60	34.57	.9666	964.39613	.9660	964.39613	.9660	.00057	.51205	1483.42
1725	2.01	34.56	27.64	35.04	.9656	874.07472	.9650	874.07472	.9650	.00053	.38798	1486.48
1950	1.84	34.59	27.68	36.71	.9646	529.88213	.9641	529.88213	.9641	.00050	.27107	1489.69
2175	1.75	34.59	27.68	37.74	.9636	312.95614	.9631	312.95614	.9631	.00050	.15022	1493.04

STATION NO. 12

LAT LON UA MO YR HR
36043N14703M 26 11 76 12

1643 13

DEPTH (M)	TEMP (C)	SAL	SIGMA-T (KG/CM ³)	SIGMA (CC/GM)	ASTP (CC/GM)	DYN HEIGHT (M)	ADSP (CC/GM)	STANWAKU (M)	DELTA (CC/GM)	UTN ANOM (M)	S VEL (M/SEC)
0	19.31	34.15	24.31	24.31	.9763	2419.91250	.9726	2417.03693	.00362	2.07559	1519.24
20	19.32	34.15	24.31	24.40	.9762	2400.38803	.9725	2398.38447	.00363	2.07500	1519.57
40	19.32	34.15	24.31	24.44	.9761	2360.86522	.9725	2378.93483	.00364	1.93040	1519.90
60	16.81	34.14	24.92	25.14	.9754	2361.34989	.9724	2359.48650	.00366	1.86340	1512.92
80	13.94	34.30	25.68	24.04	.9746	2341.84920	.9723	2340.03997	.00224	1.80934	1504.42
100	11.83	34.30	26.10	24.56	.9741	2322.36168	.9722	2320.59525	.00175	1.76643	1497.63
125	10.71	34.30	26.30	24.87	.9738	2298.01201	.9721	2296.29190	.00176	1.72013	1494.10
150	9.25	34.16	26.44	27.12	.9736	2273.66412	.9720	2271.79136	.00183	1.67784	1489.00
175	8.68	34.10	26.48	27.28	.9734	2249.33129	.9719	2247.69364	.00159	1.63746	1487.20
200	7.94	34.06	26.57	27.44	.9733	2224.99762	.9717	2223.39873	.00151	1.57891	1484.74
250	7.50	34.18	26.72	27.87	.9729	2176.34420	.9715	2174.98174	.00137	1.52687	1484.02
300	5.92	34.04	26.84	28.23	.9725	2127.00844	.9713	2126.24719	.00126	1.46126	1478.43
350	5.14	34.04	26.92	28.54	.9722	2079.08859	.9711	2077.68824	.00118	1.40036	1476.06
400	4.94	34.12	27.01	28.86	.9719	2040.372	.9708	2039.14099	.00110	1.33324	1476.17
450	4.62	34.14	27.06	29.16	.9717	1981.89314	.9706	1980.60390	.00106	1.26924	1475.69
600	4.09	34.08	27.07	29.40	.9714	1933.31513	.9704	1932.07818	.00105	1.23666	1474.23
550	3.77	34.15	27.16	29.72	.9711	1884.75059	.9702	1883.56419	.00096	1.18640	1473.80
600	3.77	34.20	27.20	29.99	.9709	1836.20006	.9700	1835.06102	.00093	1.13904	1474.64
650	3.76	34.26	27.24	30.27	.9706	1767.66250	.9697	1766.56895	.00089	1.07356	1475.56
700	3.46	34.29	27.28	30.54	.9704	1719.13783	.9695	1718.08725	.00086	1.01988	1475.97
750	3.51	34.32	27.32	30.81	.9701	1690.62582	.9693	1689.61802	.00082	1.00780	1476.24
800	3.34	34.35	27.36	31.08	.9699	1642.12664	.9691	1641.15913	.00079	.96751	1476.39
850	3.21	34.37	27.39	31.34	.9696	1593.64005	.9688	1592.71127	.00076	.92877	1476.70
900	3.04	34.38	27.41	31.60	.9694	1545.16566	.9686	1544.27442	.00074	.89124	1476.82
950	2.84	34.41	27.45	31.87	.9691	1496.70373	.9684	1495.84856	.00070	.85517	1477.01
1000	2.72	34.42	27.46	32.12	.9689	1448.25408	.9682	1447.33366	.00069	.82042	1477.38
1100	2.61	34.45	27.50	32.63	.9684	1351.39011	.9678	1350.63669	.00065	.75342	1478.40
1200	2.44	34.48	27.54	33.13	.9679	1254.57314	.9673	1253.88339	.00062	.68975	1479.47
1300	2.35	34.50	27.56	33.61	.9675	1157.80244	.9669	1157.17362	.00060	.62863	1480.70
1400	2.25	34.51	27.58	34.09	.9670	1061.07689	.9664	1060.50722	.00058	.56967	1481.96
1500	2.16	34.53	27.60	34.58	.9666	964.39628	.9660	964.398407	.00056	.51221	1483.29
1725	1.97	34.56	27.64	36.66	.9656	874.074702820	.9650	874.073725	.00053	.39903	1486.30
1950	1.84	34.58	27.67	36.70	.9646	827.80287	.9641	827.801105	.00051	.27182	1489.67
2175	1.74	34.59	27.69	37.74	.9636	832.95621	.9631	832.79792	.00050	.15829	1493.00
2400	1.67	34.61	27.71	38.77	.9627	86.24640	.9622	86.19831	.00048	.04809	1496.58
2500	1.63	34.61	27.71	39.23	.9623	0	.9618	0	.00000	.00000	1498.12

STATION NO. 23

LAT LON DA MO YR HM
36032M146059M 26 11 76 Y

1632

14

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTP (CC/GM)	DTN (M)	HELMUT (M)	ADJUP (CC/GM)	STANDARD (M)	VELIA (CC/GM)	WIN (M)	ANOM (M)	S VEL (M/SEC)
0	19.30	34.20	24.35	24.35	.9762	2419.98892	.9726	2417.03093	.00359	2.01219	1519.25	2.00023	1519.54
20	19.29	34.19	24.35	24.44	.9761	2400.46320	.9726	2398.30497	.00359	2.00023	1519.54	2.00023	1519.54
40	19.29	34.19	24.35	24.52	.9761	2380.94312	.9725	2378.93483	.00360	2.00028	1519.86	2.00028	1519.86
60	18.78	34.20	24.49	24.75	.9758	2361.42701	.9724	2359.48050	.00348	1.97351	1518.76	1.97351	1518.76
80	14.51	34.59	25.78	24.14	.9745	2341.92025	.9723	2340.03977	.00225	1.68028	1506.63	1.68028	1506.63
100	13.36	34.42	25.89	24.34	.9740	2322.43160	.9722	2320.55225	.00215	1.63635	1502.98	1.63635	1502.98
125	12.05	34.38	26.12	24.68	.9740	2298.07722	.9721	2296.29190	.00193	1.78533	1498.90	1.78533	1498.90
150	10.71	34.17	26.20	24.88	.9738	2273.72927	.9720	2271.99136	.00186	1.73792	1494.34	1.73792	1494.34
175	10.00	34.24	26.38	27.17	.9735	2249.38717	.9719	2247.69364	.00169	1.67353	1492.27	1.67353	1492.27
200	9.14	34.13	26.44	27.34	.9734	2225.05859	.9717	2223.39673	.00164	1.65146	1489.37	1.65146	1489.37
250	7.91	34.03	26.55	27.69	.9731	2176.38971	.9715	2174.51734	.00154	1.57236	1485.41	1.57236	1485.41
300	6.88	34.05	26.71	28.09	.9727	2127.74639	.9713	2126.24719	.00139	1.49920	1482.25	1.49920	1482.25
350	5.89	33.99	26.79	28.41	.9724	2079.12002	.9711	2077.68824	.00131	1.43177	1479.04	1.43177	1479.04
400	5.71	34.15	26.94	28.79	.9720	2030.51016	.9708	2029.14042	.00117	1.36947	1479.35	1.36947	1479.35
450	5.10	34.17	27.03	29.11	.9717	1981.91695	.9706	1980.60390	.00109	1.31305	1477.71	1.31305	1477.71
500	4.76	34.18	27.07	29.39	.9714	1933.33807	.9704	1932.07848	.00105	1.25958	1477.15	1.25958	1477.15
550	4.50	34.19	27.11	29.64	.9712	1884.77219	.9702	1883.56419	.00102	1.20799	1476.91	1.20799	1476.91
600	4.02	34.19	27.16	29.95	.9709	1836.21949	.9700	1835.06102	.00097	1.15847	1475.73	1.15847	1475.73
650	3.82	34.25	27.23	30.24	.9706	1787.68071	.9697	1786.56895	.00090	1.11176	1475.80	1.11176	1475.80
700	3.36	34.23	27.26	30.52	.9704	1739.15536	.9695	1738.08795	.00087	1.06740	1474.65	1.06740	1474.65
750	3.39	34.29	27.30	30.80	.9701	1690.64279	.9693	1689.61802	.00083	1.02476	1475.69	1.02476	1475.69
800	3.26	34.33	27.35	31.08	.9699	1642.14322	.9691	1641.15913	.00079	.98407	1476.02	.98407	1476.02
850	3.21	34.35	27.37	31.33	.9696	1593.65610	.9688	1592.71127	.00078	.94481	1476.67	.94481	1476.67
900	3.11	34.38	27.40	31.59	.9694	1545.18114	.9686	1544.27442	.00075	.90672	1477.12	.90672	1477.12
950	2.95	34.40	27.43	31.86	.9691	1496.71845	.9684	1495.84856	.00072	.87009	1477.29	.87009	1477.29
1000	2.88	34.40	27.44	32.10	.9689	1448.26796	.9682	1447.43366	.00071	.83430	1477.83	.83430	1477.83
1100	2.65	34.44	27.49	32.61	.9684	1351.40207	.9678	1350.63669	.00066	.76537	1478.56	.76537	1478.56
1200	2.52	34.46	27.52	33.10	.9680	1254.68345	.9673	1253.98339	.00064	.70006	1479.70	.70006	1479.70
1300	2.41	34.48	27.55	33.60	.9675	1157.61099	.9669	1157.17362	.00061	.63737	1480.95	.63737	1480.95
1400	2.30	34.50	27.57	34.08	.9670	1061.08410	.9664	1060.50722	.00060	.67687	1482.17	.67687	1482.17
1500	2.19	34.52	27.59	34.56	.9666	964.40230	.9660	963.88407	.00058	.51822	1483.40	.51822	1483.40
1725	2.02	34.56	27.63	35.63	.9656	0747.03162	.9650	0746.83925	.00054	.37236	1486.51	.37236	1486.51
1950	1.87	34.58	27.67	36.70	.9646	0529.88460	.9641	0529.61105	.00051	.27354	1489.72	.27354	1489.72
2175	1.74	34.59	27.60	37.73	.9636	0312.95762	.9631	0312.79792	.00050	.15940	1493.00	.15940	1493.00
2400	1.66	34.60	27.70	38.77	.9627	0146.24676	.9622	0146.19831	.00049	.04045	1496.52	.04045	1496.52
2500	1.64	34.61	27.71	39.23	.9623	0000.00000	.9618	0000.00000	.00048	.00000	1498.16	.00000	1498.16

STATION NO. 14

LAT. LON. DA MO YR MK
36017M147U IM 26 11 76 S

3617

15

DEPTH (M)	TEMP (C)	SAL	SIGMA-T	SIGMA	ASTP (CC/GM)	DYN HEIGHT (M)	ABSP (CC/GM)	STANDARD (M)	DELTA (CC/GM)	UYN AMOM (M)	S VLL (M/SEC)
0	20.01	34.13	24.12	24.12	.9765	2420.04565	.9726	2417.03693	.00381	2.020672	1521.14
20	20.01	34.14	24.12	24.21	.9764	2400.51754	.9726	2398.03447	.00381	2.112256	1521.47
40	20.01	34.14	24.12	24.30	.9763	2380.99116	.9725	2378.01343	.00382	2.005632	1521.80
60	19.74	34.17	24.21	24.47	.9761	2361.46625	.9724	2359.08650	.00374	1.990075	1521.53
80	19.57	34.41	25.18	25.54	.9751	2341.95512	.9723	2340.03997	.00362	1.91514	1512.65
100	14.92	34.53	25.45	24.09	.9746	2322.45040	.9722	2320.59525	.00358	1.916314	1508.19
125	13.43	34.47	25.91	24.47	.9742	2298.09845	.9721	2296.24190	.00313	1.940674	1503.60
150	11.89	34.33	26.11	24.79	.9739	2273.74713	.9720	2271.99136	.00195	1.975576	1498.70
175	9.79	34.12	26.32	27.12	.9736	2249.40321	.9719	2247.69364	.0016	1.970957	1491.35
200	8.96	34.07	26.42	27.33	.9734	2225.06575	.9717	2223.39873	.00166	1.96701	1488.62
250	8.87	34.29	26.60	27.74	.9730	2176.40567	.9715	2174.81734	.00149	1.95832	1489.39
300	6.67	34.02	26.71	28.10	.9727	2127.76372	.9713	2126.24719	.00138	1.951652	1491.38
350	5.88	34.07	26.85	28.47	.9723	2091.13900	.9711	2089.68824	.00125	1.945075	1479.11
400	5.00	34.02	26.92	28.78	.9720	2053.3040	.9708	2051.84049	.00118	1.938990	1476.28
450	4.58	34.05	26.99	29.08	.9717	1981.93622	.9706	1980.60390	.00112	1.93230	1475.40
500	4.44	34.14	27.04	29.34	.9715	1933.35622	.9704	1932.07846	.00106	1.92773	1476.60
550	4.44	34.18	27.11	29.64	.9712	1884.78987	.9702	1883.56419	.00102	1.922567	1476.73
600	3.99	34.17	27.15	29.94	.9709	1836.23682	.9700	1835.06102	.00098	1.917579	1475.58
650	3.64	34.19	27.20	30.23	.9707	1787.69712	.9697	1786.56895	.00093	1.912817	1474.96
700	3.72	34.26	27.25	30.51	.9704	1739.17072	.9695	1738.08795	.00089	1.906276	1476.22
750	3.60	34.30	27.29	30.78	.9701	1690.65735	.9693	1689.61802	.00085	1.903932	1476.60
800	3.38	34.32	27.33	31.05	.9699	1642.15686	.9691	1641.15413	.00081	.99774	1476.52
850	3.29	34.35	27.36	31.32	.9696	1593.66902	.9688	1592.71127	.00079	.99575	1477.01
900	3.13	34.36	27.38	31.58	.9694	1545.19343	.9686	1544.27442	.00076	.91901	1477.17
950	3.02	34.39	27.42	31.84	.9691	1496.73013	.9684	1495.81056	.00073	.88150	1477.58
1000	2.92	34.30	27.42	32.04	.9689	1448.27859	.9682	1447.33366	.00073	.84494	1477.97
1100	2.74	34.42	27.47	32.59	.9684	1351.41051	.9678	1350.63669	.00069	.77382	1478.42
1200	2.55	34.45	27.51	33.09	.9680	1254.59013	.9673	1253.88339	.00065	.70674	1479.82
1300	2.44	34.48	27.54	33.59	.9675	1157.81660	.9669	1157.17362	.00062	.64299	1481.06
1400	2.33	34.49	27.56	34.07	.9671	1061.08864	.9664	1060.50722	.00061	.58142	1482.28
1500	2.24	34.51	27.58	34.55	.9666	964.40565	.9660	963.88407	.00059	.52159	1483.60
1725	2.04	34.55	27.63	35.63	.9656	0747.03326	.9650	0746.63925	.00055	.39401	1486.59
1950	1.89	34.58	27.67	36.69	.9646	0529.68571	.9641	0529.61105	.00052	.27466	1489.80
2175	1.77	34.59	27.68	37.73	.9636	0312.95823	.9631	0312.79792	.00050	.16030	1493.13
2400	1.67	34.60	27.70	38.77	.9627	0096.24718	.9622	0096.19831	.00049	.01888	1496.56
2500	1.64	34.60	27.70	39.22	.9623	00000	.9618	00000	.00049	.00000	1498.15

STATION NO. 15

LAT 20° 14' 30.59N
LON 147° 26' 11.76W
DA MO YR MK
35059M1470 2M 26 11 76 1

1559

16

DEPTH (M)	TEMP (C)	SAL	SIGMA-T (KG/CM)	SIGMA	ASTM (KG/CM)	DTM (M)	MLQMT (KG/CM)	ADJUP (KG/CM)	STANDARD (M)	VELTA (KG/CM)	UTN ANOM (M)	S VEL (M/SEC)
0	20.14	34.11	24.07	24.07	.9765	2420.1048	.9726	2417.8369	.00366	2.2/155	1521.47	
20	20.13	34.11	24.07	24.16	.9764	2400.5793	.9726	2398.3847	.00366	2.1/440	1521.77	
40	20.12	34.12	24.08	24.26	.9763	2381.05406	.9725	2378.93483	.00366	2.1/1723	1522.08	
60	20.10	34.12	24.09	24.35	.9762	2361.52657	.9724	2359.40650	.00366	2.0/400	1522.35	
80	18.24	34.14	24.57	24.93	.9757	2342.00743	.9723	2340.03997	.00360	1.96745	1517.53	
100	17.27	34.39	25.00	25.44	.9752	2322.499871	.9722	2320.59525	.00360	1.90046	1515.25	
125	15.39	34.45	25.48	26.04	.9746	2298.12607	.9721	2296.29190	.00255	1.83417	1509.99	
150	14.00	34.49	25.81	26.48	.9742	2273.76576	.9720	2271.99136	.00224	1.77444	1505.97	
175	12.73	34.39	25.99	26.78	.9739	2249.41425	.9719	2247.69364	.00207	1.72041	1502.06	
200	11.57	34.38	26.21	27.11	.9736	2225.07018	.9717	2223.39873	.00187	1.67146	1498.46	
250	9.38	34.23	26.47	27.61	.9731	2176.40178	.9715	2174.81734	.00161	1.58444	1491.21	
300	7.33	34.18	26.72	28.09	.9727	2127.75669	.9713	2126.24719	.00138	1.50950	1484.13	
350	6.97	34.25	26.85	28.46	.9723	2091.3170	.9711	2089.68824	.00126	1.44346	1483.68	
400	6.09	34.22	26.95	28.79	.9720	2052.320	.9708	2050.74042	.00117	1.38272	1480.97	
450	5.75	34.26	27.02	29.10	.9717	1981.92976	.9706	1980.60390	.00110	1.32585	1480.48	
500	5.15	34.23	27.07	29.38	.9715	1933.35030	.9704	1932.07848	.00106	1.27182	1478.82	
550	4.67	34.27	27.16	29.71	.9712	1884.78516	.9702	1883.56419	.00098	1.22098	1477.73	
600	4.27	34.28	27.21	29.99	.9709	1836.23444	.9700	1835.06102	.00093	1.17342	1476.90	
650	4.03	34.31	27.26	30.28	.9706	1787.69716	.9697	1786.56895	.00088	1.12821	1476.77	
700	3.79	34.30	27.27	30.53	.9704	1739.17246	.9695	1738.08792	.00082	1.08451	1476.57	
750	3.38	34.31	27.32	30.82	.9701	1690.66042	.9693	1689.61802	.00082	1.04240	1475.68	
800	3.44	34.34	27.34	31.06	.9699	1642.16094	.9691	1641.15913	.00081	1.00181	1476.80	
850	3.23	34.35	27.37	31.33	.9696	1593.67346	.9688	1592.71127	.00078	.96219	1476.75	
900	3.16	34.38	27.40	31.59	.9694	1545.19835	.9686	1544.27442	.00075	.92393	1477.29	
950	2.97	34.38	27.42	31.84	.9691	1496.73532	.9684	1495.84856	.00074	.88677	1477.35	
1000	2.84	34.37	27.42	32.08	.9689	1448.28376	.9682	1447.43366	.00073	.85011	1477.61	
1100	2.71	34.42	27.47	32.59	.9684	1351.41591	.9678	1350.63669	.00069	.77922	1478.79	
1200	2.56	34.45	27.51	33.09	.9680	1254.59564	.9673	1253.88339	.00065	.71225	1479.86	
1300	2.44	34.48	27.54	33.59	.9675	1157.82206	.9669	1157.17362	.00062	.64844	1481.06	
1400	2.32	34.49	27.56	34.07	.9671	1061.09415	.9664	1060.50722	.00061	.58692	1482.24	
1500	2.23	34.51	27.58	34.55	.9666	964.41128	.9660	963.88407	.00059	.52721	1483.56	
1750	2.08	34.54	27.62	35.62	.9656	827.03819	.9650	826.43925	.00055	.39893	1486.58	
1950	1.90	34.57	27.66	36.68	.9646	652.98885	.9641	652.41105	.00052	.27780	1489.83	
2175	1.78	34.58	27.67	37.72	.9636	531.25945	.9631	531.279792	.00051	.16153	1493.16	
2400	1.68	34.60	27.70	38.76	.9627	416.24731	.9622	416.19831	.00049	.04900	1496.60	
2500	1.65	34.60	27.70	39.22	.9623	0	.9620	0	.00000	.00000	1498.19	

STATION NO. 16

LAT LON
35046N 14703WDA MO YR MK
25 11 76 22

1546

17

DEPTH (M)	TEMP (C)	SAL (O/00)	SIGMA-T	SIGMA	ASTM (C/GM)	DYN (M)	WFLIGHT (M)	ADJUP (C/GM)	STANDARD (M)	ULLIA (C/GM)	UTM ANOM (M)	S VEL (M/SEC)
0	22.79	34.21	23.42	23.42	.9771	2420.38488	.9726	2417.83693	.00448	.00448	2.54795	1528.54
20	22.79	34.22	23.42	23.51	.9770	2400.84340	.9725	2398.38497	.00448	.00448	2.54842	1528.88
40	22.64	34.21	23.45	23.62	.9769	2381.30387	.9725	2378.73483	.00446	.00446	2.54904	1528.92
60	21.97	34.29	23.71	23.97	.9766	2361.76873	.9724	2359.48650	.00422	.00422	2.52223	1527.53
80	20.55	34.43	24.20	24.55	.9760	2342.24245	.9723	2340.03497	.00376	.00376	2.20247	1524.26
100	19.76	34.61	24.55	24.90	.9756	2322.72586	.9722	2320.59525	.00343	.00343	2.01059	1522.65
125	18.49	34.58	24.85	25.40	.9752	2298.34018	.9721	2296.29190	.00315	.00315	2.04827	1519.45
150	17.35	34.62	25.16	25.82	.9748	2273.96443	.9720	2271.99136	.00286	.00286	1.97306	1516.58
175	16.21	34.53	25.36	26.13	.9745	2249.59740	.9719	2247.69364	.00268	.00268	1.90376	1513.45
200	14.83	34.51	25.65	26.54	.9741	2225.23882	.9717	2223.39873	.00241	.00241	1.84018	1509.52
250	12.67	34.45	26.05	27.17	.9735	2176.54663	.9715	2174.81734	.00203	.00203	1.72928	1503.15
300	10.67	34.25	26.27	27.63	.9731	2127.88008	.9713	2126.24719	.00183	.00183	1.63289	1496.75
350	9.04	34.19	26.50	28.09	.9727	2092.3527	.9711	2090.8824	.00161	.00161	1.54702	1491.54
400	8.05	34.23	26.68	28.51	.9723	2061.136	.9708	2059.14049	.00144	.00144	1.47087	1488.67
450	7.18	34.16	26.75	28.87	.9720	2042.00461	.9706	2040.60390	.00137	.00137	1.40070	1486.03
500	6.49	34.24	26.91	29.21	.9716	2033.41438	.9704	2032.07848	.00122	.00122	1.33589	1484.24
550	5.90	34.24	26.99	29.52	.9713	2024.84076	.9702	2023.56419	.00115	.00115	1.27656	1482.71
600	5.29	34.26	27.08	29.84	.9710	2016.28223	.9700	2015.04104	.00106	.00106	1.22120	1481.09
650	4.60	34.27	27.16	30.18	.9707	2007.73412	.9697	2006.56895	.00098	.00098	1.17017	1479.09
700	4.22	34.27	27.20	30.45	.9704	2000.21025	.9695	1999.08795	.00094	.00094	1.12229	1478.33
750	4.10	34.30	27.24	30.72	.9702	1990.69424	.9693	1989.61602	.00091	.00091	1.07620	1478.70
800	3.80	34.32	27.29	31.00	.9699	1982.19118	.9691	1981.15913	.00086	.00086	1.03204	1478.30
850	3.58	34.34	27.33	31.28	.9697	1973.70117	.9688	1972.71127	.00083	.00083	.98989	1478.22
900	3.47	34.37	27.36	31.54	.9694	1965.25383	.9686	1964.27442	.00079	.00079	.94941	1478.63
950	3.16	34.36	27.38	31.80	.9692	1956.75885	.9684	1955.84856	.00077	.00077	.91028	1478.13
1000	2.98	34.37	27.41	32.04	.9689	1948.30802	.9682	1947.43369	.00075	.00075	.87235	1478.21
1100	2.82	34.41	27.45	32.57	.9685	1939.83633	.9678	1938.96369	.00071	.00071	.79973	1479.25
1200	2.65	34.43	27.48	33.07	.9680	1931.41396	.9673	1930.58339	.00068	.00068	.73059	1480.22
1300	2.52	34.46	27.52	33.56	.9675	1923.03796	.9669	1922.17362	.00065	.00065	.66433	1481.38
1400	2.39	34.47	27.54	34.04	.9671	1914.610774	.9664	1913.80722	.00063	.00063	.60051	1482.51
1500	2.28	34.49	27.56	34.53	.9666	1906.142272	.9660	1905.388407	.00061	.00061	.53864	1483.74
1725	2.04	34.53	27.61	35.61	.9656	1874.04598	.9650	1873.26325	.00057	.00057	.40673	1486.23
1950	1.94	34.56	27.65	36.67	.9646	1846.05298394	.9641	1845.2961105	.00054	.00054	.28289	1489.99
2175	1.80	34.57	27.68	37.71	.9637	1812.96209	.9631	1812.279742	.00052	.00052	.16417	1493.23
2400	1.68	34.59	27.69	38.76	.9627	1784.24804	.9622	1783.519831	.00050	.00050	.04973	1496.58
2500	1.65	34.59	27.69	39.21	.9623	1774.0	.9618	1773.0	.00050	.00050	.00000	1498.17

STATION NO. 17

LAT LUN UA MO YR HM
35029M1470 SM 25 11 76 17

1529

18

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTM (CC/GM)	DTN (M)	WALUM (M)	ADJUP (CC/GM)	STANDARD (M)	VELIA (CC/GM)	UTN (M)	AROM (M)	S VEL (M/SEC)
0	23.65	34.13	23.11	23.11	.9774	2420.88/35		.9726	2417.83/69	.00477	3.05043	1530.60	
20	23.63	34.13	23.11	23.20	.9773	2401.33/95		.9726	2390.30/97	.00477	2.95498	1530.88	
40	23.63	34.13	23.11	23.29	.9772	2381.79/427		.9725	2370.93/483	.00478	2.85944	1531.20	
60	23.64	34.13	23.10	23.37	.9772	2362.25/17		.9724	2359.48/650	.00480	2.76367	1531.61	
80	23.64	34.15	23.11	23.46	.9771	2342.70/73		.9723	2340.03/997	.00480	2.66775	1532.01	
100	23.07	34.50	23.56	23.99	.9766	2323.17/125		.9722	2320.59/525	.00436	2.67597	1531.22	
125	20.34	34.64	24.42	24.94	.9756	2298.76/55		.9721	2296.29/190	.00357	2.47666	1524.68	
150	18.69	34.72	24.85	25.51	.9751	2274.38/99		.9720	2271.99/138	.00316	2.37243	1521.16	
175	18.38	34.72	24.98	25.75	.9749	2260.00/80		.9719	2247.89/384	.00304	2.31517	1520.12	
200	17.64	34.70	25.14	26.02	.9746	2225.63/64		.9717	2223.39/873	.00290	2.24092	1518.47	
250	16.82	34.70	25.35	26.45	.9742	2176.91/88		.9715	2174.01/734	.00272	2.10054	1516.73	
300	16.11	34.66	25.48	26.81	.9739	2128.21/78		.9713	2126.24/719	.00260	1.96759	1515.35	
350	16.04	34.54	25.65	27.20	.9735	2079.52/54		.9711	2077.68/824	.00245	1.84130	1512.85	
400	13.69	34.49	25.88	27.66	.9731	2006.45/2		.9708	2004.00/47	.00224	1.72404	1509.07	
450	12.61	34.43	26.05	28.06	.9727	1982.21/43		.9706	1980.60/390	.00208	1.61593	1506.21	
500	11.07	34.30	26.24	28.49	.9723	1933.59/74		.9704	1932.07/848	.00190	1.51626	1501.52	
550	8.83	34.27	26.59	29.09	.9717	1884.99/02		.9702	1883.56/419	.00155	1.42983	1494.14	
600	7.93	34.25	26.72	29.45	.9714	1836.41/05		.9700	1835.06/102	.00144	1.35503	1491.52	
650	6.97	34.05	26.83	29.82	.9710	1787.85/21		.9697	1786.56/895	.00131	1.28627	1484.38	
700	6.93	34.19	26.94	30.16	.9707	1739.31/13		.9695	1738.08/245	.00121	1.22318	1485.24	
750	4.65	34.13	27.05	30.52	.9704	1690.78/32		.9693	1689.61/802	.00110	1.16549	1480.76	
800	4.29	34.14	27.11	30.82	.9701	1642.27/19		.9691	1641.15/913	.00104	1.11216	1480.13	
850	4.40	34.25	27.17	31.10	.9698	1593.77/43		.9688	1592.71/127	.00099	1.06156	1481.54	
900	4.24	34.29	27.22	31.38	.9696	1545.20/71		.9686	1544.27/442	.00094	1.01329	1481.76	
950	3.72	34.28	27.26	31.67	.9693	1496.61/53		.9684	1495.84/856	.00089	.96736	1480.39	
1000	3.69	34.33	27.31	31.94	.9690	1448.35/29		.9682	1447.14/366	.00086	.92364	1481.12	
1100	3.16	34.34	27.37	32.48	.9685	1391.47/72		.9678	1350.83/669	.00080	.84103	1480.60	
1200	2.90	34.38	27.42	33.00	.9681	1254.64/51		.9673	1253.88/339	.00074	.76413	1481.22	
1300	2.72	34.42	27.47	33.51	.9676	1157.86/57		.9669	1157.17/362	.00070	.68206	1482.18	
1400	2.57	34.44	27.50	34.00	.9671	1061.13/073		.9664	1061.50/722	.00067	.62352	1483.24	
1500	2.45	34.44	27.52	34.48	.9667	974.44/152		.9660	974.30/807	.00065	.55746	1484.43	
1725	2.18	34.51	27.57	35.58	.9656	874.05/16		.9650	874.63/925	.00059	.41791	1487.13	
1950	1.97	34.56	27.64	36.66	.9646	782.90/94		.9641	782.96/1105	.00055	.28987	1490.07	
2175	1.85	34.56	27.65	37.70	.9643	631.27/972		.9631	631.27/972	.00053	.16842	1493.42	
2400	1.74	34.58	27.68	38.74	.9627	0.96.24/910		.9622	0.96.19831	.00051	.05080	1496.82	
2500	1.70	34.59	27.69	39.20	.9623	0.00000		.9618	0.00000	.00050	.00000	1498.38	

STATION NO. 18

LAT LGN DA MO YR HK
35015M1470 OM 25 11 76 14

1515

14

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTP (C/GM)	DTN (M)	MLT(M)	AJSP (C/GM)	STANDARD (M)	VELLA (C/GM)	UTN ANUM (M)	S VEL (M/SEC)
0	23.56	34.29	23.25	23.25	.9773	2420.95403	.9726	2417.83693		.00463	3.011710	1530.56
20	23.57	34.29	23.25	23.34	.9772	2401.40336	.9726	2398.34447		.00464	3.024338	1530.91
40	23.59	34.33	23.33	23.51	.9770	2381.86711	.9725	2378.73483		.00457	2.99228	1530.84
60	23.25	34.37	23.41	23.67	.9769	2362.32798	.9724	2359.44650		.00451	2.84148	1530.80
80	23.14	34.39	23.45	23.79	.9768	2342.79159	.9723	2340.03447		.00448	2.75161	1530.49
100	21.17	34.71	24.25	24.68	.9759	2323.26484	.9722	2320.59525		.00432	2.66943	1526.57
125	19.93	34.77	24.62	25.17	.9754	2298.87293	.9721	2296.29190		.00337	2.56103	1523.71
150	18.98	34.79	24.88	25.54	.9751	2274.49120	.9720	2271.99136		.00313	2.44984	1521.50
175	18.45	34.78	25.01	25.78	.9749	2250.11671	.9719	2247.69364		.00301	2.44307	1520.39
200	17.92	34.77	25.13	26.02	.9746	2225.74781	.9717	2223.34873		.00290	2.34908	1519.26
250	17.10	34.75	25.32	26.42	.9743	2177.02522	.9715	2174.61734		.00274	2.20788	1517.64
300	16.54	34.74	25.44	26.77	.9739	2128.32048	.9713	2126.24714		.00264	2.07329	1516.76
350	16.01	34.67	25.51	27.06	.9737	209.63087	.9711	207.68824		.00259	1.94262	1515.87
400	15.00	34.64	25.71	27.49	.9732	200.95835	.9708	200.14044		.00240	1.81786	1513.50
450	13.85	34.55	25.89	27.89	.9729	1982.30560	.9706	1980.60340		.00224	1.70170	1510.49
500	11.87	34.44	26.20	28.44	.9723	1913.67542	.9704	1932.07848		.00195	1.55694	1504.50
550	10.79	34.39	26.36	28.84	.9720	1885.06749	.9702	1883.56419		.00180	1.50330	1501.46
600	9.89	34.34	26.48	29.19	.9716	1836.47717	.9700	1835.06102		.00169	1.41615	1498.98
650	8.38	34.18	26.59	29.55	.9713	1787.90372	.9697	1786.56895		.00157	1.33477	1493.97
700	7.33	34.18	26.75	29.95	.9709	1739.34818	.9695	1738.08792		.00141	1.26023	1490.76
750	6.73	34.26	26.89	30.33	.9706	1690.81097	.9693	1689.61602		.00128	1.19294	1489.34
800	5.04	34.12	27.00	30.69	.9702	1642.29124	.9691	1641.15913		.00116	1.13209	1483.18
850	4.50	34.15	27.08	31.01	.9699	1593.78759	.9688	1592.71127		.00107	1.07630	1481.82
900	4.52	34.24	27.15	31.31	.9696	1545.29954	.9686	1544.27442		.00101	1.02411	1482.86
950	4.16	34.26	27.20	31.60	.9694	1496.82331	.9684	1495.84856		.00096	.97475	1482.22
1000	3.92	34.28	27.24	31.88	.9691	1448.36139	.9682	1447.43366		.00092	.94272	1482.02
1100	3.52	34.32	27.32	32.42	.9686	1351.47580	.9678	1350.63669		.00085	.83910	1482.10
1200	3.18	34.37	27.39	32.95	.9681	1254.61081	.9673	1253.88334		.00078	.75741	1482.40
1300	2.99	34.42	27.45	33.47	.9676	1157.85245	.9669	1157.17362		.00073	.68182	1483.33
1400	2.77	34.45	27.49	33.98	.9671	1061.11018	.9664	1060.50722		.00069	.61094	1484.11
1600	2.68	34.48	27.63	34.48	.9667	964.42016	.9660	963.88407		.00065	.54408	1485.02
1725	2.29	34.64	27.60	35.59	.9656	874.04477	.9650	874.63325		.00058	.48551	1487.65
1950	2.10	34.50	27.65	36.67	.9646	784.059025	.9641	784.61105		.00054	.42719	1490.70
2175	1.91	34.60	27.68	37.72	.9636	693.1295878	.9631	693.279792		.00051	.36086	1493.74
2400	1.78	34.62	27.71	38.77	.9627	602.962466	.9622	602.96831		.00049	.30835	1497.05
2500	1.73	34.63	27.72	39.23	.9623	512.00000	.9618	512.00000		.00048	.25000	1498.57

STATION NO. 29

LAT LON DA MO YR MK
350 1414054M 25 11 76 10

1501 20

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA	ASTM (CC/GM)	DYN (M)	MC/LMT (M)	ADJDP (CC/GM)	STANDARD (M)	ULLTA (CC/GM)	UTN ANUM (M)	S VLL (M/SEC)
0	23.48	34.44	23.39	23.39	.9771	2421.01484		.9726	2417.83693	.00450	3.18091	1530.53
20	23.44	34.44	23.39	23.48	.9771	2401.47380		.9726	2398.38497	.00451	3.07083	1530.86
40	23.44	34.44	23.39	23.57	.9770	2341.93343		.9725	2338.93483	.00452	3.00060	1531.19
60	23.34	34.42	23.42	23.64	.9769	2362.39697		.9724	2359.48650	.00450	2.91046	1531.15
80	22.35	34.61	23.84	24.19	.9764	2342.66448		.9723	2340.03997	.00410	2.82450	1529.20
100	20.95	34.73	24.32	24.74	.9758	2323.34230		.9722	2320.59525	.00365	2.74703	1526.01
125	19.94	34.77	24.61	25.14	.9755	2298.95107		.9721	2296.49190	.00338	2.65917	1523.85
150	19.17	34.75	24.81	25.46	.9752	2274.56824		.9720	2271.99138	.00320	2.57688	1521.99
175	18.36	34.77	25.03	25.80	.9749	2250.19298		.9719	2247.69364	.00300	2.49934	1520.12
200	17.90	34.77	25.14	26.02	.9746	2225.82433		.9717	2223.39873	.00270	2.42559	1519.20
250	17.25	34.75	25.28	26.38	.9743	2177.10099		.9715	2174.81734	.00278	2.28364	1518.08
300	16.68	34.73	25.40	26.73	.9740	2128.39441		.9713	2126.24719	.00268	2.17722	1517.17
350	16.04	34.68	25.51	27.05	.9737	2079.70374		.9711	2077.64824	.00259	2.01549	1516.04
400	15.47	34.64	25.62	27.40	.9733	2031.02025		.9708	2029.14099	.00249	1.80045	1515.00
450	14.24	34.51	25.77	27.77	.9730	1982.37120		.9706	1980.60390	.00236	1.76729	1511.70
500	13.02	34.48	26.01	28.24	.9725	1933.73338		.9704	1932.07840	.00214	1.65480	1508.47
550	11.47	34.40	26.24	28.71	.9721	1885.11774		.9702	1883.56419	.00191	1.55353	1503.88
600	9.85	34.28	26.44	29.15	.9717	1836.52359		.9700	1835.06102	.00173	1.46256	1498.75
650	9.02	34.33	26.61	29.56	.9713	1787.94940		.9697	1786.56895	.00156	1.38044	1496.58
700	7.43	34.17	26.73	29.93	.9709	1739.39364		.9695	1738.08785	.00143	1.30567	1490.94
750	5.85	34.02	26.82	30.27	.9706	1690.85464		.9693	1689.61802	.00133	1.23661	1485.51
800	3.48	33.81	26.91	30.64	.9703	1642.33237		.9691	1641.15913	.00120	1.17323	1476.24
850	3.54	33.90	26.98	30.93	.9700	1593.82374		.9688	1592.71127	.00115	1.11446	1477.45
900	3.58	33.99	27.05	31.23	.9697	1545.33300		.9684	1544.27442	.00109	1.05858	1478.57
950	4.20	34.18	27.14	31.53	.9694	1496.85432		.9684	1495.84856	.00102	1.00577	1482.27
1000	4.36	34.27	27.19	31.81	.9692	1448.38928		.9682	1447.43366	.00098	.95563	1483.90
1100	3.61	34.31	27.30	32.40	.9686	1351.49975		.9678	1350.63669	.00087	.88306	1482.47
1200	3.26	34.27	27.30	32.87	.9682	1254.65970		.9673	1253.88339	.00087	.77631	1482.60
1300	3.07	34.43	27.45	33.47	.9676	1157.87009		.9669	1157.17362	.00073	.67647	1483.69
1400	2.80	34.43	27.47	33.96	.9672	1061.13161		.9664	1060.50722	.00071	.62459	1484.21
1500	2.65	34.47	27.52	34.47	.9667	964.44401		.9660	963.88407	.00066	.55604	1485.31
1725	2.134	34.53	27.59	36.58	.9656	0747.05148		.9650	0746.63925	.00060	.41423	1487.65
1950	2.12	34.57	27.64	36.66	.9646	0529.89639		.9641	0529.61105	.00055	.28533	1490.77
2175	1.94	34.58	27.67	37.71	.9637	0312.96259		.9631	0312.79742	.00052	.16466	1493.85
2400	1.82	34.61	27.70	38.75	.9627	006.24783		.9622	006.19831	.00050	.04953	1497.21
2500	1.76	34.62	27.71	39.22	.9623	0		.9618	0	.00000	.00000	1498.68

STATION NO. 20

LAT LON DA MO. YR HR
33059M 145053M 24 11 76 23

1359

21

DEPTH (M)	TEMP (C)	SAL (0/00)	SIGMA-T	SIGMA (CC/GH)	ASTP (CC/GH)	DYN HEIGHT (M)	ADJUP (CC/GH)	STANDARD (M)	DELTA (CC/GH)	UTN ANOM (M)	S VEL (M/SEC)
0	24.90	34.63	23.11	23.11	.9774	2420.89076	.9726	2417.83673	.00477	3.06183	1534.10
20	24.90	34.63	23.11	23.20	.9773	2401.35141	.9726	2390.38497	.00477	2.90644	1534.51
40	24.90	34.63	23.11	23.29	.9772	2381.80573	.9725	2370.43403	.00478	2.74009	1534.83
60	21.60	34.67	24.10	24.34	.9762	2362.27111	.9724	2350.48650	.00385	2.70440	1527.00
80	19.44	34.71	24.70	25.05	.9756	2342.75332	.9723	2330.03997	.00328	2.71334	1521.61
100	18.43	34.79	25.02	25.46	.9752	2323.24003	.9722	2310.59525	.00298	2.65077	1519.12
125	17.55	34.74	25.20	25.75	.9749	2298.87026	.9721	2286.29190	.00282	2.57836	1516.91
150	17.07	34.74	25.32	25.94	.9747	2274.50062	.9720	2271.99136	.00271	2.60926	1515.90
175	16.83	34.74	25.37	26.15	.9745	2250.13566	.9719	2247.69364	.00267	2.44202	1515.59
200	16.64	34.75	25.43	26.31	.9744	2225.77462	.9717	2223.39873	.00262	2.37589	1515.43
250	16.35	34.74	25.49	26.59	.9741	2177.06310	.9715	2174.01734	.00258	2.24575	1515.36
300	15.75	34.67	25.57	26.90	.9738	2120.36553	.9713	2126.24719	.00251	2.11834	1514.25
350	15.03	34.62	25.69	27.24	.9735	2079.68345	.9711	2077.68824	.00241	1.99521	1512.75
400	14.29	34.57	25.81	27.59	.9731	2031.01781	.9708	2029.14048	.00231	1.87732	1511.13
450	12.94	34.48	26.02	28.03	.9727	1982.37071	.9706	1980.60390	.00212	1.76680	1507.45
500	11.84	34.39	26.16	28.41	.9724	1933.74284	.9704	1932.07848	.00198	1.66436	1504.41
550	10.82	34.33	26.31	28.78	.9720	1885.13262	.9702	1883.56419	.00185	1.56862	1501.50
600	9.61	34.24	26.48	29.18	.9716	1836.54105	.9700	1835.06102	.00170	1.48002	1497.46
650	8.17	34.14	26.59	29.55	.9713	1787.96746	.9697	1786.56895	.00156	1.39850	1493.12
700	7.10	34.08	26.70	29.90	.9710	1739.41100	.9695	1738.08795	.00145	1.32304	1489.74
750	6.09	34.03	26.80	30.24	.9706	1690.87079	.9693	1689.61802	.00136	1.25276	1486.47
800	5.45	34.06	26.90	30.59	.9703	1642.34662	.9691	1641.15913	.00125	1.18748	1484.78
850	4.95	34.09	26.96	30.91	.9700	1593.83804	.9688	1592.71127	.00117	1.12676	1483.60
900	4.57	34.14	27.06	31.22	.9697	1545.34447	.9686	1544.27442	.00109	1.07005	1482.93
950	4.36	34.19	27.13	31.52	.9694	1496.86535	.9684	1495.84856	.00104	1.01679	1482.96
1000	4.14	34.21	27.17	31.79	.9692	1448.39957	.9682	1447.43366	.00100	.96591	1482.90
1100	3.72	34.29	27.27	32.37	.9686	1351.50779	.9678	1350.63669	.00090	.87109	1482.91
1200	3.37	34.35	27.35	32.91	.9681	1254.66866	.9673	1253.88339	.00082	.78526	1483.18
1300	3.04	34.39	27.41	33.44	.9676	1157.07993	.9669	1157.17362	.00076	.70631	1483.59
1400	2.88	34.43	27.46	33.95	.9672	1061.13977	.9664	1060.50722	.00072	.63254	1484.56
1500	2.70	34.46	27.50	34.45	.9667	964.44694	.9660	963.68407	.00068	.56206	1485.51
1750	2.36	34.52	27.58	35.57	.9657	747.05773	.9650	746.63925	.00061	.41847	1487.93
1900	2.12	34.57	27.64	36.64	.9646	627.89954	.9641	627.61105	.00055	.28848	1490.77
2175	1.99	34.59	27.67	37.70	.9637	512.96503	.9631	512.89742	.00053	.16711	1494.07
2400	1.85	34.60	27.68	38.74	.9627	406.24833	.9622	406.19031	.00051	.05002	1497.33
2500	1.75	34.62	27.71	39.22	.9623	300.00000	.9618	300.00000	.00049	.00000	1498.64

A P P E N D I X C

STD DATA FROM KUROSHIO WARM EDDY

(29-30 October 1976)

AND CALCULATED PARAMETERS

STATION NO. 1 STD 23

LAT LON CA MC YR HR
37029142019M 23 11 76 23

3729

9

DEPTH (M)	TEMP (C)	SAL (G/CC)	SIGMA-T (KG/CM)	SIGMA (KG/CM)	ASTP (C/G/CM)	DYN WEIGHT (M)	ASSOP (C/G/CM)	STANDARD (M)	DELTA (CC/GM)	DYN ANOM (M)	S VEL (M/SEC)
0.	19.83	34.29	24.29	24.29	.9763	1455.53133	.9726	1453.95265	.00365	1.57948	1520.43
20.	19.83	34.29	24.29	24.37	.9762	1435.05335	.9726	1434.50590	.00365	1.50546	1521.16
40.	19.82	34.32	24.30	24.47	.9761	1416.46315	.9725	1415.55775	.00365	1.43240	1521.47
60.	17.32	34.53	25.08	25.35	.9753	1395.96922	.9724	1395.60242	.00291	1.35691	1515.09
80.	15.17	34.59	25.41	25.77	.9749	1377.46753	.9723	1376.15590	.00260	1.31174	1511.84
100.	14.99	34.55	25.57	25.11	.9746	1357.97332	.9722	1356.71114	.00236	1.26215	1509.12
125.	12.94	34.46	25.50	26.56	.9741	1333.61483	.9721	1332.40782	.00205	1.20701	1502.17
150.	11.75	34.34	26.14	25.81	.9739	1309.26964	.9720	1308.10729	.00192	1.15736	1498.33
175.	10.92	34.35	26.29	27.04	.9736	1284.52068	.9719	1283.40357	.00173	1.11113	1495.94
200.	9.72	34.13	26.34	27.25	.9735	1260.59189	.9717	1259.51466	.00173	1.06724	1491.52
250.	7.17	34.11	26.72	27.67	.9729	1211.92280	.9715	1210.93329	.00139	.98953	1482.64
300.	6.24	34.11	26.94	28.23	.9725	1163.28580	.9713	1162.36312	.00126	.92369	1479.78
350.	5.03	34.03	26.93	28.55	.9722	1114.56700	.9711	1113.80419	.00118	.85284	1475.59
400.	3.94	33.95	26.99	28.85	.9720	1065.06206	.9709	1064.25542	.00111	.80566	1471.76
450.	4.49	34.07	27.02	29.11	.9717	1017.47037	.9706	1016.71594	.00109	.75055	1475.02
500.	4.27	34.14	27.10	29.42	.9714	969.85907	.9704	968.19491	.00102	.69768	1475.05
550.	3.72	34.11	27.13	29.69	.9712	927.32754	.9702	926.63012	.00099	.64743	1473.53
600.	3.21	34.24	27.21	30.01	.9709	881.77516	.9700	881.17695	.00092	.59982	1475.34
650.	3.57	34.27	27.27	30.30	.9706	823.24026	.9697	822.64488	.00086	.55540	1474.77
700.	3.13	34.31	27.33	30.53	.9703	774.71753	.9695	774.20388	.00081	.51366	1474.53
750.	3.19	34.33	27.36	30.85	.9701	725.20781	.9693	725.71395	.00074	.47387	1474.89
800.	2.32	34.32	27.41	31.15	.9698	677.71117	.9691	677.27506	.00073	.43611	1474.24
850.	2.97	34.75	27.42	31.34	.9696	629.22689	.9689	628.82720	.00073	.39969	1475.58
900.	2.35	34.40	27.43	31.63	.9693	580.75394	.9685	580.39035	.00071	.35350	1475.46
950.	2.50	34.45	27.48	31.90	.9691	532.29331	.9684	531.96449	.00068	.32884	1477.15
1000.	2.85	34.48	27.51	32.15	.9688	483.84525	.9682	483.54959	.00065	.29557	1477.81
1100.	2.80	34.50	27.53	32.64	.9684	436.98393	.9678	436.75262	.00064	.23127	1479.29
1200.	2.50	34.52	27.57	33.15	.9679	390.16901	.9673	389.99932	.00059	.16969	1479.70
1300.	2.30	34.53	27.59	33.64	.9675	343.40095	.9669	343.28955	.00057	.11140	1480.53
1400.	2.20	34.54	27.61	34.12	.9670	296.67816	.9664	296.62315	.00056	.05501	1481.79
1500.	2.10	34.55	27.63	34.60	.9666	250.00000	.9660	250.00000	.00054	.00000	1483.05

C
P

STATION NO. 2 STD 24

LAT LCN GA MO YR HR
37030N14204W 30 11 76 2

3730

10

DEPTH (M)	TEMP (C)	SSL (CM)	SIGMA-T (KG/CM)	ASTP (C/CM)	DYN (CM)	WEIGHT (CM)	ASTD (C/CM)	STANDARD (M)	DELTA (C/CM)	DYN ANOM (M)	S VFL (M/SEC)
0.	19.15	34.06	24.30	24.30	.9763	1455.60437	.9726	1453.95245	.00367	1.65151	1513.69
20.	18.29	34.06	24.33	24.41	.9762	1435.67993	.9726	1434.80090	.00352	1.57903	1518.54
40.	18.66	34.03	24.33	24.55	.9760	1415.55793	.9725	1415.05076	.00356	1.50723	1517.49
50.	17.67	34.07	24.66	24.03	.9757	1337.04092	.9724	1295.60242	.00331	1.43843	1515.40
60.	15.36	34.23	25.14	25.49	.9751	1377.53271	.9723	1376.15590	.00285	1.37621	1512.06
100.	14.92	34.28	25.45	25.90	.9748	1358.03377	.9722	1358.71110	.00256	1.32256	1507.89
125.	13.05	34.40	25.93	26.49	.9742	1337.57192	.9721	1332.40733	.00217	1.26409	1502.46
150.	11.63	34.31	26.14	26.32	.9739	1303.32098	.9720	1300.10724	.00192	1.21369	1497.77
175.	10.72	34.10	26.30	27.03	.9736	1244.97719	.9719	1243.89357	.00177	1.16762	1494.35
200.	9.43	34.15	26.40	27.31	.9734	1263.63926	.9717	1259.51466	.00167	1.12460	1490.48
250.	7.22	34.14	26.65	27.79	.9730	1211.57997	.9715	1210.93326	.00144	1.04669	1485.21
300.	7.72	34.26	26.77	28.14	.9726	1163.34034	.9713	1162.26312	.00133	.97722	1485.82
350.	5.82	34.05	26.85	28.46	.9723	1114.71663	.9711	1113.80418	.00126	.91245	1478.84
400.	4.61	34.04	26.98	28.84	.9720	1 65.10934	.9704	1 65.25642	.00113	.85292	1474.69
450.	3.88	33.93	27.02	29.12	.9717	1 17.51745	.9706	1 16.71984	.00109	.79762	1472.39
500.	4.37	34.13	27.18	29.40	.9714	0858.53984	.9704	0858.10441	.00104	.74443	1475.46
550.	4.22	34.16	27.12	29.67	.9712	0920.37340	.9702	0919.68012	.00101	.69327	1475.70
600.	4.34	34.26	27.18	29.97	.9709	0871.82134	.9700	0871.17695	.00095	.64439	1477.17
650.	3.93	34.23	27.21	30.24	.9706	0823.28255	.9697	0822.63488	.00092	.59767	1475.82
700.	3.57	34.20	27.21	30.46	.9704	0774.75540	.9695	0774.20388	.00093	.55152	1475.93
750.	3.34	34.26	27.29	30.79	.9701	0725.24101	.9693	0725.73395	.00085	.50706	1475.44
800.	3.18	34.10	27.33	31.05	.9698	0677.74063	.9691	0677.27505	.00081	.46561	1475.64
850.	2.36	34.30	27.35	31.32	.9696	0629.25295	.9688	0628.62720	.00079	.42575	1475.53
900.	2.31	34.14	27.39	31.58	.9694	0582.77753	.9685	0582.39035	.00076	.38719	1476.20
950.	2.87	34.07	27.42	31.84	.9691	0532.31449	.9684	0531.96449	.00073	.35001	1476.91
1000.	2.85	34.13	27.43	32.02	.9683	0483.85336	.9682	0483.54959	.00072	.31377	1477.68
1100.	2.72	34.43	27.48	32.60	.9674	0386.39651	.9673	0386.75262	.00068	.24389	1478.85
1200.	2.53	34.45	27.52	33.10	.9650	0297.17598	.9673	0289.99332	.00064	.07765	1479.83
1300.	2.40	34.50	27.56	33.61	.9675	0193.40478	.9669	0193.28955	.00060	.11523	1460.92
1400.	2.22	34.52	27.59	34.10	.9670	0 95.57949	.9664	0 95.62315	.00057	.05634	1481.85
1500.	2.12	34.54	27.62	34.59	.9666	0 00000	.9660	0 00000	.00055	.00000	1483.12

CENTER OF BODY IS 134.51KM FROM VELOCITY PROFILE

STATION NO. 3 STD 25

LAT LONG DATE TIME

37032M103011M 27 11 76 5

3732

11

DEPTH (M)	TEMP (C)	SAL (G/CM)	SIGMA-T (G/CM)	ACTS (G/CM)	DYN HEIGHT (M)	3500 (C/G/CM)	STANDARD (M)	DELTA (C/G/CM)	DYN ANOM (M)	S VFL (M/SEC)
0.	13.95	34.01	24.04	24.04	9765 1455.78903	.9776	1453.95235	.00389	1.23618	1520.83
20.	13.95	34.01	24.04	24.13	9764 1436.25940	.9775	1434.50297	.00389	1.75950	1521.16
40.	13.95	34.01	24.04	24.22	9764 1416.73144	.9775	1415.05076	.00389	1.68068	1521.49
60.	13.81	34.11	24.26	24.52	9761 1337.20721	.9774	1335.60242	.00359	1.60473	1520.43
80.	13.63	34.51	24.76	25.11	9755 1377.63152	.9773	1376.15590	.00322	1.53562	1513.03
100.	13.53	34.55	25.20	25.64	9750 1356.18549	.9772	1356.71119	.00281	1.47531	1513.40
120.	13.47	34.59	25.57	26.13	9745 1333.81726	.9771	1332.40783	.00246	1.40944	1510.41
140.	13.44	34.59	25.75	26.42	9743 1309.45730	.9770	1308.10729	.00229	1.35001	1508.19
160.	13.59	34.52	25.37	25.65	9740 1285.10352	.9719	1283.80457	.00219	1.23395	1506.09
180.	12.56	34.47	26.07	26.97	9737 1260.75520	.9717	1259.51466	.00200	1.24155	1502.33
200.	11.44	34.42	26.26	27.39	9733 1212.07916	.9715	1210.93328	.00182	1.14589	1483.88
300.	8.34	34.02	26.47	27.85	9729 1163.42294	.9713	1162.36312	.00162	1.05982	1487.86
350.	5.36	34.36	26.56	28.25	9725 1114.78723	.9711	1113.80419	.00145	.93306	1489.07
400.	5.58	34.12	26.80	28.64	9722 1 66.17042	.9709	1 65.25642	.00131	.91401	1482.80
450.	5.82	34.15	26.93	29.00	9718 1 17.57124	.9705	1 16.71324	.00119	.85141	1450.72
500.	5.81	34.09	26.83	28.14	9717 0368.22363	.9704	0368.10441	.00129	.78923	1480.38
550.	4.54	34.11	27.04	29.60	9713 0920.41004	.9702	0919.68012	.00109	.72992	1476.97
600.	4.06	34.11	27.09	29.82	9710 0871.65415	.9700	0871.17695	.00103	.67720	1475.79
650.	4.08	34.18	27.15	30.17	9707 0623.31174	.9697	0622.68488	.00098	.62686	1476.60
700.	3.99	34.22	27.19	30.44	9705 0774.78244	.9695	0774.20328	.00095	.57855	1477.30
750.	3.66	34.24	27.24	30.73	9702 0725.26529	.9693	0725.73395	.00090	.53233	1476.77
800.	3.48	34.28	27.29	31.01	9699 0677.76352	.9691	0677.27526	.00085	.48845	1476.89
850.	3.45	34.32	27.32	31.29	9697 0629.27365	.9689	0628.42720	.00083	.44445	1477.65
900.	3.25	34.33	27.35	31.54	9694 0580.75515	.9685	0580.39035	.00080	.40580	1477.69
950.	3.17	34.36	27.38	31.80	9692 0532.33098	.9684	0531.96449	.00077	.36649	1478.18
1000.	3.07	34.39	27.41	32.07	9689 0483.87924	.9682	0483.54959	.00074	.32866	1478.52
1100.	2.93	34.41	27.45	32.56	9685 0387.00852	.9678	0386.75262	.00071	.25590	1479.55
1200.	2.66	34.44	27.49	33.07	9680 0290.13597	.9673	0289.99932	.00067	.18555	1480.28
1300.	2.49	34.47	27.53	33.57	9675 0193.41082	.9669	0193.28955	.00064	.12128	1481.26
1400.	2.36	34.50	27.56	34.07	9671 0 96.68242	.9664	0 96.52315	.00060	.05926	1482.42
1500.	2.24	34.52	27.59	34.56	9666 0 00000	.9660	0 00000	.00058	.00000	1483.61

CENTER OF BODY IS 95.23KM FROM VELOCITY PROFILE

STATION NO. 5 STD 26

LAT LON QD MD YR HP
37032M143035M 37 11 76 8

3722

12

DEPTH (M)	TEMP (C)	SAL (G/CM)	SIGMA-T	SIGMA (G/CM)	ASTP (C/GM)	DYN WEIGHT (M)	'350P (C/GM)	STANDARD (M)	DELTA (C/GM)	DYN ANOM (M)	S VEL (M/SEC)
0.	21.95	34.32	23.76	27.75	.9763	1456.04522	.9726	1453.95265	.00415	2.09336	1526.29
20.	21.95	34.32	23.76	27.85	.9767	1436.51125	.9726	1434.50090	.00415	2.01036	1526.62
40.	21.69	34.27	23.77	27.95	.9766	1416.97603	.9726	1415.05076	.00415	1.92729	1526.45
60.	21.33	34.24	24.11	24.37	.9762	1397.44383	.9724	1395.60242	.00383	1.84742	1526.20
80.	19.75	34.28	24.78	25.13	.9755	1377.93249	.9723	1376.15530	.00321	1.77700	1513.54
100.	16.42	34.61	25.37	25.81	.9748	1358.42965	.9722	1356.71118	.00265	1.71647	1512.96
125.	15.34	34.61	25.62	26.17	.9745	1334.06298	.9721	1332.40783	.00249	1.65517	1510.93
150.	14.47	34.58	25.78	26.45	.9742	1309.70389	.9721	1308.10729	.00227	1.59562	1507.63
175.	13.61	34.54	25.93	26.71	.9740	1285.35125	.9719	1283.80457	.00213	1.54149	1505.19
200.	12.28	34.35	26.07	26.97	.9737	1261.00480	.9717	1259.51465	.00200	1.49015	1500.92
250.	11.25	34.20	26.27	27.40	.9733	1217.32815	.9715	1215.83328	.00181	1.39449	1493.21
300.	11.01	34.15	26.30	27.65	.9731	1163.66754	.9713	1162.16312	.00180	1.30443	1498.11
350.	10.63	34.23	26.30	27.83	.9729	1115.01329	.9711	1113.50418	.00191	1.21413	1497.56
400.	9.78	34.15	26.35	28.16	.9726	1053.38112	.9708	1052.25642	.00177	1.12471	1495.04
450.	9.30	33.99	26.36	28.41	.9724	1000.75549	.9706	1000.1671984	.00175	1.03666	1492.40
500.	7.05	33.78	26.47	28.77	.9720	926.14523	.9704	925.819441	.00164	.95183	1485.85
550.	5.70	33.76	26.63	29.17	.9717	877.55393	.9702	877.0919.68012	.00148	.87382	1481.26
600.	4.50	33.71	26.72	29.52	.9713	827.197903	.9700	827.117635	.00139	.80209	1477.50
650.	3.55	33.72	26.94	29.87	.9710	774.42055	.9697	774.26438	.00127	.73568	1473.93
700.	3.46	33.51	26.91	30.17	.9707	727.87779	.9695	727.420388	.00120	.67321	1474.49
750.	3.58	33.27	27.00	30.49	.9704	676.34966	.9693	675.73395	.00113	.61571	1477.33
800.	3.53	34.01	27.08	30.78	.9701	627.83573	.9691	627.27508	.00109	.56067	1477.90
850.	3.75	34.03	27.11	31.06	.9699	562.933523	.9688	562.82720	.00103	.50803	1478.60
900.	3.57	34.20	27.22	31.63	.9693	532.37493	.9684	532.35035	.00097	.45806	1479.07
1000.	3.40	34.24	27.26	31.31	.9691	483.91441	.9682	483.54953	.00089	.41046	1479.56
1100.	3.22	34.33	27.35	32.46	.9686	437.03246	.9678	436.75262	.00091	.36893	1479.82
1200.	2.30	34.22	27.42	32.90	.9681	380.20148	.9673	380.29932	.00074	.27925	1490.85
1300.	2.72	34.42	27.47	33.51	.9676	313.41956	.9669	313.28955	.00070	.20216	1481.58
1400.	2.47	34.45	27.52	34.03	.9671	246.66592	.9664	246.62315	.00055	.13001	1482.16
1500.	2.36	34.50	27.56	34.53	.9666	0	.9660	0	.00061	.00000	1484.10
CENTER OF FDDY IS 58.75KM FROM VELOCITY PROFILE											

C-4

STATION NO. 5 STD 2P

LAT LON SA NO V2 HR
37032M14N0 3M 37 11 76 11

3732

13

DEPTH (M)	TEMP (C)	SAL (G/100)	SIGMA-T (C/GM)	SIGMA-1 (C/GM)	ASTP (C/GM)	CYN HEIGHT (M)	A350P (C/GM)	STANDARD (M)	DELTA (C/GM)	DYN ANOM (M)	S VEL (M/SEC)
0.	13.50	34.75	24.31	24.31	.9763	1455.99731	.9726	1453.95235	.00362	2.04445	1521.09
20.	13.59	34.75	24.32	24.42	.9762	1436.47286	.9726	1434.50297	.00363	1.97196	1521.39
40.	13.73	34.73	24.33	24.50	.9761	1415.95528	.9725	1415.05076	.00362	1.89052	1521.39
60.	13.46	34.15	25.02	25.26	.9753	1397.47605	.9724	1395.60242	.00297	1.82252	1511.48
80.	12.90	34.37	25.34	26.30	.9744	1377.93893	.9723	1376.15590	.00209	1.76302	1501.05
100.	11.60	34.44	26.25	26.70	.9740	1356.45528	.9722	1356.71119	.00180	1.74409	1497.01
125.	11.57	34.45	26.25	26.83	.9739	1334.10692	.9721	1332.40763	.00180	1.69969	1497.33
150.	11.56	34.44	26.26	26.23	.9738	1309.76133	.9720	1306.10729	.00191	1.65404	1497.59
175.	11.55	34.44	26.26	27.05	.9737	1285.41815	.9719	1283.80457	.00181	1.60878	1498.06
200.	11.54	34.44	26.26	27.15	.9736	1261.07809	.9717	1259.51456	.00182	1.56343	1498.44
225.	11.50	34.43	26.26	27.32	.9733	1212.40559	.9715	1210.93322	.00183	1.47232	1499.10
300.	11.44	34.42	26.26	27.61	.9731	1163.74382	.9713	1162.36312	.00184	1.38070	1499.70
350.	11.34	34.40	26.27	27.84	.9729	1115.09285	.9711	1113.90412	.00184	1.23858	1500.14
400.	11.16	34.37	26.28	28.08	.9727	1 66.45284	.9708	1 65.25642	.00185	1.19543	1500.29
450.	10.67	34.38	26.29	28.32	.9725	1 17.82423	.9706	1 16.71964	.00184	1.15440	1499.26
500.	9.54	34.14	25.16	28.63	.9722	969.20950	.9704	968.19441	.00177	1.01420	1496.16
550.	8.42	33.99	26.43	28.94	.9719	920.60743	.9702	919.63012	.00170	.92731	1492.22
600.	5.23	33.22	26.51	29.37	.9715	872.02390	.9700	871.17635	.00151	.84695	1484.30
650.	4.49	33.70	26.72	29.74	.9711	823.45934	.9697	822.64489	.00139	.77447	1477.96
700.	3.42	33.56	26.30	30.07	.9703	774.91110	.9695	774.20388	.00130	.70722	1474.13
750.	2.93	33.70	26.87	30.38	.9705	726.37785	.9693	725.73395	.00123	.64399	1473.17
800.	3.52	33.95	26.34	30.65	.9702	677.85963	.9691	677.27506	.00118	.58357	1476.91
850.	3.87	34.72	27.04	30.99	.9699	629.35384	.9688	628.62720	.00110	.52664	1479.02
900.	3.51	34.09	27.10	31.27	.9697	580.86391	.9685	580.39035	.00105	.47305	1479.68
950.	2.85	34.17	27.16	31.57	.9694	532.28657	.9684	531.96449	.00099	.42209	1480.84
1000.	3.58	34.13	27.21	31.35	.9691	483.97322	.9682	483.54959	.00095	.37363	1480.52
1100.	3.25	34.29	27.32	32.42	.9686	436.03675	.9678	436.75262	.00084	.28413	1460.92
1200.	2.84	34.36	27.40	32.98	.9681	389.20318	.9673	389.99932	.00076	.20410	1460.93
1300.	2.72	34.43	27.48	33.52	.9676	341.42118	.9669	341.28955	.00069	.13163	1482.20
1400.	2.58	34.45	27.51	34.00	.9671	293.68692	.9664	293.62315	.00067	.06376	1481.30
1500.	2.36	34.50	27.56	34.53	.9566	0	.9660	0	.00000	.00000	1484.10

CENTER OF SEDY IS 20.53KM FROM VELOCITY PROFILE

STATION NO. 5 STD 28

LAT LAY UA MC YR HR
37028M144027M 20 11 76 14

372A

14

DEPTH (M)	TEMP (C)	SAL (G/100)	SIGMA-T (C/GM)	SIGMA (C/GM)	ASTP (C/GM)	OWN HEIGHT (M)	ASBP (C/GM)	STANDARD (M)	DELTA (C/GM)	OWN ANCH (M)	C VFL (M/SEC)
0.	17.64	34.02	24.63	24.63	.9760	1455.81750	.9726	1453.92245	.00332	1.85466	1514.27
20.	17.68	34.03	24.53	24.72	.9759	1436.29078	.9726	1434.50097	.00333	1.79818	1514.72
40.	17.57	34.03	24.63	24.81	.9753	1416.78234	.9725	1415.05076	.00333	1.73159	1515.02
60.	17.05	34.66	25.26	25.53	.9751	1397.27331	.9724	1395.60242	.00274	1.67089	1514.27
80.	15.55	34.63	25.56	25.92	.9747	1377.77483	.9723	1376.15530	.00245	1.61894	1513.29
100.	13.80	34.42	25.98	26.32	.9744	1358.28395	.9722	1356.71114	.00216	1.57277	1504.56
125.	11.63	34.42	26.15	26.71	.9740	1333.32880	.9721	1332.40743	.00190	1.52198	1487.37
150.	11.16	34.32	26.24	26.91	.9738	1309.58266	.9720	1308.10729	.00183	1.47538	1496.13
175.	11.13	34.28	26.29	27.03	.9736	1285.23385	.9719	1283.80957	.00174	1.43029	1496.51
200.	10.34	34.15	26.30	27.23	.9735	1260.90047	.9717	1259.51464	.00174	1.38581	1496.21
250.	10.66	34.10	26.31	27.44	.9733	1212.23028	.9715	1210.93326	.00178	1.29701	1495.96
300.	10.27	34.24	26.33	27.69	.9731	1163.57163	.9713	1162.76312	.00176	1.20852	1495.30
350.	9.45	34.05	26.34	27.93	.9728	1114.92464	.9711	1113.80418	.00176	1.12048	1492.96
400.	9.11	32.92	26.43	28.26	.9725	1055.29108	.9709	1055.25642	.00167	1.03467	1488.50
450.	5.51	32.79	26.55	28.63	.9722	1000.71383	.9706	1000.71384	.00155	.95401	1482.91
500.	5.44	32.56	26.74	29.05	.9718	949.07543	.9704	949.07544	.00137	.88103	1479.51
550.	4.53	33.74	26.74	29.30	.9715	902.049294	.9702	901.963012	.00136	.81282	1476.68
600.	3.59	32.79	26.98	29.68	.9712	871.92506	.9700	871.17695	.00123	.74812	1473.80
650.	3.73	32.86	26.93	29.96	.9709	823.37273	.9697	822.58484	.00114	.69786	1474.89
700.	4.23	34.06	27.03	30.27	.9706	774.83450	.9695	774.20368	.00111	.63062	1478.51
750.	3.74	34.06	27.03	30.58	.9703	725.31093	.9693	725.73395	.00104	.57699	1476.86
800.	3.70	34.13	27.15	30.87	.9701	677.80110	.9691	677.27506	.00098	.52605	1477.62
850.	3.16	34.22	27.19	31.14	.9698	629.30454	.9688	628.92720	.00096	.47735	1473.67
900.	3.42	34.22	27.25	31.43	.9695	582.62126	.9685	582.39035	.00090	.43091	1478.22
950.	3.26	34.25	27.29	31.70	.9693	532.35132	.9684	531.96449	.00086	.38684	1476.41
1000.	3.22	34.20	27.33	31.98	.9690	483.89421	.9682	483.54959	.00083	.34463	1479.14
1100.	2.94	34.21	27.39	32.51	.9685	417.01783	.9678	416.75262	.00075	.26521	1479.68
1200.	2.51	34.41	27.45	33.03	.9680	329.19095	.9673	328.99932	.00071	.19152	1450.88
1300.	2.57	34.46	27.51	33.56	.9675	219.41294	.9669	219.28555	.00065	.12339	1481.59
1400.	2.32	34.49	27.55	34.06	.9671	0.9568316	.9664	0.9562315	.00062	.06003	1482.54
1500.	2.28	34.52	27.59	34.55	.9666	0.00000	.9660	0.00000	.00059	.00000	1483.79

CENTER OF EDDY IS 18.01KM FROM VELOCITY PROFILE

STATION NO. 7 STD 29

LAT LONG DA MO YR HR
37030M144055M 37 11 76 19

3730

15

DEPTH (M)	TEMP (C)	SAL (G/CM)	SIGMA-T (G/CM)	ASTD (C/G/CM)	FWN (M)	HEIGHT (M)	ASSCF (C/C/CM)	STANDARD (M)	DELTA (C/C/CM)	DYN ANCH (M)	S VEL (M/SEC)
0.	15.86	33.77	24.52	24.62	.9760	1455.50824	.9726	1453.95245	.00337	1.55539	1511.76
20.	15.82	33.77	24.63	24.72	.9759	1435.08978	.9726	1434.60597	.00332	1.53496	1511.45
40.	15.76	33.77	24.65	24.82	.9758	1415.57327	.9725	1415.05076	.00331	1.52251	1512.00
60.	15.44	33.72	24.58	24.95	.9757	1397.05892	.9724	1395.60242	.00329	1.49560	1511.29
80.	15.34	33.66	25.12	25.47	.9752	1377.55074	.9723	1376.15590	.00284	1.39484	1509.50
100.	13.80	34.77	25.73	26.18	.9745	1358.05423	.9722	1356.71119	.00230	1.34305	1504.32
125.	11.85	34.17	25.99	26.55	.9741	1333.69648	.9721	1332.40763	.00205	1.28465	1497.95
150.	11.02	34.13	26.16	26.84	.9739	1309.34557	.9720	1308.10729	.00190	1.23929	1495.47
175.	10.03	34.17	26.12	27.11	.9736	1285.00327	.9719	1283.80957	.00175	1.19371	1492.29
200.	9.36	34.14	26.41	27.32	.9734	1260.66565	.9717	1259.51465	.00167	1.15099	1490.20
250.	7.53	34.00	26.56	27.71	.9730	1212.00453	.9715	1210.93324	.00152	1.07126	1484.29
300.	5.08	33.96	26.66	28.05	.9727	1163.36075	.9713	1162.36312	.00142	.99764	1478.81
350.	5.37	33.91	26.79	28.41	.9724	1114.73358	.9711	1113.80414	.00131	.92941	1476.52
400.	4.81	33.95	26.59	28.74	.9721	166.12281	.9708	165.25642	.00122	.86640	1475.40
450.	4.99	34.74	26.94	29.02	.9718	117.52550	.9706	116.71924	.00117	.80667	1477.09
500.	4.54	34.07	27.21	29.33	.9715	0368.54411	.9704	0368.19441	.00110	.74976	1476.39
550.	4.54	24.14	27.07	29.62	.9712	0920.37576	.9702	0919.68012	.00106	.69566	1477.01
600.	4.24	34.17	27.12	29.91	.9710	0671.62194	.9700	0671.17595	.00101	.64412	1476.63
650.	3.70	34.19	27.13	30.22	.9707	0623.28049	.9697	0622.69489	.00093	.59561	1475.21
700.	3.63	34.23	27.23	30.49	.9704	0774.75352	.9695	0774.20332	.00090	.54974	1475.90
750.	3.38	34.27	27.29	30.78	.9701	0726.23997	.9693	0725.73395	.00085	.50602	1475.62
800.	3.24	34.31	27.33	31.06	.9699	0677.73974	.9691	0677.27506	.00081	.46468	1475.91
850.	3.20	34.14	27.36	31.32	.9696	0579.25214	.9684	0578.82720	.00078	.42494	1475.61
900.	3.03	34.25	27.39	31.55	.9694	0580.77672	.9682	0580.39035	.00075	.38637	1477.00
950.	2.97	34.19	27.42	31.85	.9691	0532.31375	.9684	0531.96449	.00072	.34927	1476.92
1000.	2.77	34.19	27.44	32.17	.9689	0493.66302	.9682	0493.54959	.00071	.31243	1477.34
1100.	2.57	34.44	27.49	32.61	.9684	0386.99724	.9678	0386.75262	.00067	.24462	1478.55
1200.	2.54	34.47	27.52	33.11	.9680	0230.17878	.9673	0230.09932	.00064	.17946	1479.80
1300.	2.39	34.50	27.56	33.61	.9675	0193.40705	.9669	0193.28955	.00060	.11751	1480.87
1400.	2.23	34.51	27.58	34.09	.9670	095.68106	.9664	095.62315	.00059	.05791	1482.14
1500.	2.20	34.53	27.50	34.57	.9666	095.68106	.9660	095.62315	.00057	.00000	1483.46

CENTER OF EDDY IS 56.11KM FROM VELOCITY PROFILE

END

FILMED

6-83

DTIC